

**HUMAN GENES AND GENE EXPRESSION PRODUCTS**Cross-Reference to Related Application

[0001] This application claims the benefit of earlier-filed U.S. provisional application serial no. 60/226,326 filed August 16, 2000, which application is incorporated herein by reference in its entirety.

Field of the Invention

[0002] The present invention relates to polynucleotides of human origin, particularly in human colon, breast, prostate, and/or lung tissue, and the encoded gene products.

Background of the Invention

[0003] Identification of novel polynucleotides, particularly those that encode an expressed gene product, is important in the advancement of drug discovery, diagnostic technologies, and the understanding of the progression and nature of complex diseases such as cancer. Identification of genes expressed in different cell types isolated from sources that differ in disease state or stage, developmental stage, exposure to various environmental factors, the tissue of origin, the species from which the tissue was isolated, and the like is key to identifying the genetic factors that are responsible for the phenotypes associated with these various differences.

[0004] This invention provides novel human polynucleotides, the polypeptides encoded by these polynucleotides, and the genes and proteins corresponding to these novel polynucleotides.

Summary of the Invention

[0005] This invention relates to novel human polynucleotides and variants thereof, their encoded polypeptides and variants thereof, to genes corresponding to these polynucleotides and to proteins expressed by the genes. The invention also relates to diagnostics and therapeutics comprising such novel human polynucleotides, their corresponding genes or gene products, including probes, antisense nucleotides, and antibodies. The polynucleotides of the invention correspond to a polynucleotide comprising the sequence information of at least one of SEQ ID NOS:1-6010.

[0006] Various aspects and embodiments of the invention will be readily apparent to the ordinarily skilled artisan upon reading the description provided herein.

Detailed Description of the Invention

[0007] Before the present invention is described, it is to be understood that this invention is not limited to particular embodiments described, as such may, of course, vary. It is also to be understood that the terminology used herein is for the purpose of describing particular embodiments only, and is not intended to be limiting.

[0008] Unless defined otherwise, all technical and scientific terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this invention belongs. Although any methods and materials similar or equivalent to those described herein can be used in the practice or testing of the present invention, the preferred methods and materials are now described.

[0009] All publications and patent applications cited in this specification are herein incorporated by reference as if each individual publication or patent application were specifically and individually indicated to be incorporated by reference. The citation of any publication is for its disclosure prior to the filing date and should not be construed as an admission that the present invention is not entitled to antedate such publication by virtue of prior invention.

[0010] It must be noted that as used herein and in the appended claims, the singular forms "a," "and," and "the" include plural referents unless the context clearly dictates otherwise. Thus, for example, reference to "a polynucleotide" includes a plurality of such polynucleotides and reference to "the colon cancer cell" includes reference to one or more cells and equivalents thereof known to those skilled in the art, and so forth.

[0011] The publications and applications discussed herein are provided solely for their disclosure prior to the filing date of the present application. Nothing herein is to be construed as an admission that the present invention is not entitled to antedate such publication by virtue of prior invention. Further, the dates of publication provided may be different from the actual publication dates which may need to be independently confirmed.

#### Definitions

[0012] The terms "polynucleotide" and "nucleic acid," used interchangeably herein, refer to a polymeric forms of nucleotides of any length, either ribonucleotides or deoxynucleotides. Thus, these terms include, but are not limited to, single-, double-, or multi-stranded DNA or RNA, genomic DNA, cDNA, DNA-RNA hybrids, branched nucleic acid (see, *e.g.*, U.S. Pat. Nos. 5,124,246; 5,710,264; and 5,849,481), or a polymer comprising purine and pyrimidine bases or other natural, chemically or biochemically modified, non-natural, or derivatized nucleotide bases. These terms further include, but are not limited to, mRNA or cDNA that comprise intronic sequences (see, *e.g.*, Niwa et al. (1999) Cell 99(7):691-702). The backbone of the polynucleotide can comprise sugars and phosphate groups (as may typically be found in RNA or DNA), or modified or substituted sugar or phosphate groups. Alternatively, the backbone of the polynucleotide can comprise a polymer of synthetic subunits such as phosphoramidites and thus can be an oligodeoxynucleoside phosphoramidate or a mixed phosphoramidate-phosphodiester oligomer. Peyrottes et al. (1996) Nucl. Acids Res. 24:1841-1848; Chaturvedi et al. (1996) Nucl. Acids Res. 24:2318-2323. A polynucleotide may comprise modified nucleotides, such as methylated nucleotides and nucleotide analogs, uracyl, other sugars, and linking

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groups such as fluororibose and thioate, and nucleotide branches. The sequence of nucleotides may be interrupted by non-nucleotide components. A polynucleotide may be further modified after polymerization, such as by conjugation with a labeling component. Other types of modifications included in this definition are caps, substitution of one or more of the naturally occurring nucleotides with an analog, and introduction of means for attaching the polynucleotide to proteins, metal ions, labeling components, other polynucleotides, or a solid support.

**[0013]** The terms "polypeptide" and "protein," used interchangeably herein, refer to a polymeric form of amino acids of any length, which can include coded and non-coded amino acids, chemically or biochemically modified or derivatized amino acids, and polypeptides having modified peptide backbones. The term includes fusion proteins, including, but not limited to, fusion proteins with a heterologous amino acid sequence, fusions with heterologous and homologous leader sequences, with or without N-terminal methionine residues; immunologically tagged proteins; and the like.

**[0014]** "Diagnosis" as used herein generally includes determination of a subject's susceptibility to a disease or disorder, determination as to whether a subject is presently affected by a disease or disorder, prognosis of a subject affected by a disease or disorder (*e.g.*, identification of pre-metastatic or metastatic cancerous states, stages of cancer, or responsiveness of cancer to therapy), and therametrics (*e.g.*, monitoring a subject's condition to provide information as to the effect or efficacy of therapy).

**[0015]** "Sample" or "biological sample" as used herein encompasses a variety of sample types, and are generally meant to refer to samples of biological fluids or tissues, particularly samples obtained from tissues, especially from cells of the type associated with a disease or condition for which a diagnostic application is designed (*e.g.*, ductal adenocarcinoma), and the like. "Sample" or "biological sample" are meant to encompass blood and other liquid samples of biological origin, solid tissue samples, such as a biopsy specimen or tissue cultures or cells derived therefrom and the progeny thereof. These terms encompass samples that have been manipulated in any way after their procurement as well as derivatives and fractions of samples, where the samples may be manipulated by, for example, treatment with reagents, solubilization, or enrichment for certain components. The terms also encompass clinical samples, and also includes cells in cell culture, cell supernatants, cell lysates, serum, plasma, biological fluids, and tissue samples. Where the sample is solid tissue, the cells of the tissue can be dissociated or tissue sections can be analyzed.

**[0016]** The terms "treatment," "treating," "treat" and the like are used herein to generally refer to obtaining a desired pharmacologic and/or physiologic effect. The effect may be prophylactic in terms of completely or partially preventing a disease or symptom thereof and/or may be therapeutic in terms of a partial or complete stabilization or cure for a disease and/or adverse effect attributable to the

disease. "Treatment" as used herein covers any treatment of a disease in a mammal, particularly a human, and includes: (a) preventing the disease or symptom from occurring in a subject which may be predisposed to the disease or symptom but has not yet been diagnosed as having it; (b) inhibiting the disease symptom, i.e., arresting its development; or relieving the disease symptom, i.e., causing regression of the disease or symptom.

[0017] The terms "individual," "subject," "host," and "patient," used interchangeably herein and refer to any mammalian subject for whom diagnosis, treatment, or therapy is desired, particularly humans. Other subjects may include cattle, dogs, cats, guinea pigs, rabbits, rats, mice, horses, and so on.

[0018] As used herein the term "isolated" refers to a polynucleotide, a polypeptide, an antibody, or a host cell that is in an environment different from that in which the polynucleotide, the polypeptide, the antibody, or the host cell naturally occurs. A polynucleotide, a polypeptide, an antibody, or a host cell which is isolated is generally substantially purified. As used herein, the term "substantially purified" refers to a compound (e.g., either a polynucleotide or a polypeptide or an antibody) that is removed from its natural environment and is at least 60% free, preferably 75% free, and most preferably 90% free from other components with which it is naturally associated. Thus, for example, a composition containing A is "substantially free of" B when at least 85% by weight of the total A+B in the composition is A. Preferably, A comprises at least about 90% by weight of the total of A+B in the composition, more preferably at least about 95% or even 99% by weight.

[0019] A "host cell," as used herein, refers to a microorganism or a eukaryotic cell or cell line cultured as a unicellular entity which can be, or has been, used as a recipient for a recombinant vector or other transfer polynucleotides, and include the progeny of the original cell which has been transfected. It is understood that the progeny of a single cell may not necessarily be completely identical in morphology or in genomic or total DNA complement as the original parent, due to natural, accidental, or deliberate mutation.

[0020] The terms "cancer," "neoplasm," "tumor," and "carcinoma," are used interchangeably herein to refer to cells which exhibit relatively autonomous growth, so that they exhibit an aberrant growth phenotype characterized by a significant loss of control of cell proliferation. In general, cells of interest for detection or treatment in the present application include precancerous (e.g., benign), malignant, metastatic, and non-metastatic cells. Detection of cancerous cell is of particular interest.

[0021] The use of "e", as in  $10e-3$ , indicates that the number to the left of "e" is raised to the power of the number to the right of "e" (thus,  $10e-3$  is  $10^{-3}$ ).

[0022] The term "heterologous" as used herein in the context of, for example, heterologous nucleic acid or amino acid sequences, heterologous polypeptides, or heterologous nucleic acid, is meant

to refer to material that originates from a source different from that with which it is joined or associated. For example, two DNA sequences are heterologous to one another if the sequences are from different genes or from different species. A recombinant host cell containing a sequence that is heterologous to the host cell can be, for example, a bacterial cell containing a sequence encoding a human polypeptide.

**[0023]** The invention relates to polynucleotides comprising the disclosed nucleotide sequences, to full length cDNA, mRNA, genomic sequences, and genes corresponding to these sequences and degenerate variants thereof, and to polypeptides encoded by the polynucleotides of the invention and polypeptide variants. The following detailed description describes the polynucleotide compositions encompassed by the invention, methods for obtaining cDNA or genomic DNA encoding a full-length gene product, expression of these polynucleotides and genes, identification of structural motifs of the polynucleotides and genes, identification of the function of a gene product encoded by a gene corresponding to a polynucleotide of the invention, use of the provided polynucleotides as probes and in mapping and in tissue profiling, use of the corresponding polypeptides and other gene products to raise antibodies, and use of the polynucleotides and their encoded gene products for therapeutic and diagnostic purposes.

#### Polynucleotide Compositions

**[0024]** The scope of the invention with respect to polynucleotide compositions includes, but is not necessarily limited to, polynucleotides having a sequence set forth in any one of SEQ ID NOS:1-6010; polynucleotides obtained from the biological materials described herein or other biological sources (particularly human sources) by hybridization under stringent conditions (particularly conditions of high stringency); genes corresponding to the provided polynucleotides; variants of the provided polynucleotides and their corresponding genes, particularly those variants that retain a biological activity of the encoded gene product (*e.g.*, a biological activity ascribed to a gene product corresponding to the provided polynucleotides as a result of the assignment of the gene product to a protein family(ies) and/or identification of a functional domain present in the gene product). Other nucleic acid compositions contemplated by and within the scope of the present invention will be readily apparent to one of ordinary skill in the art when provided with the disclosure here. "Polynucleotide" and "nucleic acid" as used herein with reference to nucleic acids of the composition is not intended to be limiting as to the length or structure of the nucleic acid unless specifically indicated.

**[0025]** The invention features polynucleotides that are expressed in human tissue, especially human colon, prostate, breast, lung and/or endothelial tissue. Novel nucleic acid compositions of the invention of particular interest comprise a sequence set forth in any one of SEQ ID NOS:1-6010 or an identifying sequence thereof. An "identifying sequence" is a contiguous sequence of residues at least

about 10 nt to about 20 nt in length, usually at least about 50 nt to about 100 nt in length, that uniquely identifies a polynucleotide sequence, *e.g.*, exhibits less than 90%, usually less than about 80% to about 85% sequence identity to any contiguous nucleotide sequence of more than about 20 nt. Thus, the subject novel nucleic acid compositions include full length cDNAs or mRNAs that encompass an identifying sequence of contiguous nucleotides from any one of SEQ ID NOS: 1-6010.

**[0026]** The polynucleotides of the invention also include polynucleotides having sequence similarity or sequence identity. Nucleic acids having sequence similarity are detected by hybridization under low stringency conditions, for example, at 50°C and 10XSSC (0.9 M saline/0.09 M sodium citrate) and remain bound when subjected to washing at 55°C in 1XSSC. Sequence identity can be determined by hybridization under stringent conditions, for example, at 50°C or higher and 0.1XSSC (9 mM saline/0.9 mM sodium citrate). Hybridization methods and conditions are well known in the art, see, *e.g.*, USPN 5,707,829. Nucleic acids that are substantially identical to the provided polynucleotide sequences, *e.g.* allelic variants, genetically altered versions of the gene, *etc.*, bind to the provided polynucleotide sequences ( SEQ ID NOS:1-6010) under stringent hybridization conditions. By using probes, particularly labeled probes of DNA sequences, one can isolate homologous or related genes. The source of homologous genes can be any species, *e.g.* primate species, particularly human; rodents, such as rats and mice; canines, felines, bovines, ovines, equines, yeast, nematodes, *etc.*

**[0027]** Preferably, hybridization is performed using at least 15 contiguous nucleotides (nt) of at least one of SEQ ID NOS:1-6010. That is, when at least 15 contiguous nt of one of the disclosed SEQ ID NOS. is used as a probe, the probe will preferentially hybridize with a nucleic acid comprising the complementary sequence, allowing the identification and retrieval of the nucleic acids that uniquely hybridize to the selected probe. Probes from more than one SEQ ID NO. can hybridize with the same nucleic acid if the cDNA from which they were derived corresponds to one mRNA. Probes of more than 15 nt can be used, *e.g.*, probes of from about 18 nt to about 100 nt, but 15 nt represents sufficient sequence for unique identification.

**[0028]** The polynucleotides of the invention also include naturally occurring variants of the nucleotide sequences (*e.g.*, degenerate variants, allelic variants, *etc.*). Variants of the polynucleotides of the invention are identified by hybridization of putative variants with nucleotide sequences disclosed herein, preferably by hybridization under stringent conditions. For example, by using appropriate wash conditions, variants of the polynucleotides of the invention can be identified where the allelic variant exhibits at most about 25-30% base pair (bp) mismatches relative to the selected polynucleotide probe. In general, allelic variants contain 15-25% bp mismatches, and can contain as little as even 5-15%, or 2-5%, or 1-2% bp mismatches, as well as a single bp mismatch.

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**[0029]** The invention also encompasses homologs corresponding to the polynucleotides of SEQ ID NOS:1-6010, where the source of homologous genes can be any mammalian species, *e.g.*, primate species, particularly human; rodents, such as rats; canines, felines, bovines, ovines, equines, yeast, nematodes, *etc.* Between mammalian species, *e.g.*, human and mouse, homologs generally have substantial sequence similarity, *e.g.*, at least 75% sequence identity, usually at least 90%, more usually at least 95% between nucleotide sequences. Sequence similarity is calculated based on a reference sequence, which may be a subset of a larger sequence, such as a conserved motif, coding region, flanking region, *etc.* A reference sequence will usually be at least about 18 contiguous nt long, more usually at least about 30 nt long, and may extend to the complete sequence that is being compared. Algorithms for sequence analysis are known in the art, such as gapped BLAST, described in Altschul, *et al. Nucleic Acids Res.* (1997) 25:3389-3402.

**[0030]** In general, variants of the invention have a sequence identity greater than at least about 65%, preferably at least about 75%, more preferably at least about 85%, and can be greater than at least about 90% or more as determined by the Smith-Waterman homology search algorithm as implemented in MPSRCH program (Oxford Molecular). For the purposes of this invention, a preferred method of calculating percent identity is the Smith-Waterman algorithm, using the following. Global DNA sequence identity must be greater than 65% as determined by the Smith-Waterman homology search algorithm as implemented in MPSRCH program (Oxford Molecular) using an affine gap search with the following search parameters: gap open penalty, 12; and gap extension penalty, 1.

**[0031]** The subject nucleic acids can be cDNAs or genomic DNAs, as well as fragments thereof, particularly fragments that encode a biologically active gene product and/or are useful in the methods disclosed herein (*e.g.*, in diagnosis, as a unique identifier of a differentially expressed gene of interest, *etc.*). The term "cDNA" as used herein is intended to include all nucleic acids that share the arrangement of sequence elements found in native mature mRNA species, where sequence elements are exons and 3' and 5' non-coding regions. Normally mRNA species have contiguous exons, with the intervening introns, when present, being removed by nuclear RNA splicing, to create a continuous open reading frame encoding a polypeptide of the invention.

**[0032]** A genomic sequence of interest comprises the nucleic acid present between the initiation codon and the stop codon, as defined in the listed sequences, including all of the introns that are normally present in a native chromosome. It can further include the 3' and 5' untranslated regions found in the mature mRNA. It can further include specific transcriptional and translational regulatory sequences, such as promoters, enhancers, *etc.*, including about 1 kb, but possibly more, of flanking genomic DNA at either the 5' and 3' end of the transcribed region. The genomic DNA can be isolated as a fragment of 100 kbp or smaller; and substantially free of flanking chromosomal sequence. The

genomic DNA flanking the coding region, either 3' and 5', or internal regulatory sequences as sometimes found in introns, contains sequences required for proper tissue, stage-specific, or disease-state specific expression.

**[0033]** The nucleic acid compositions of the subject invention can encode all or a part of the subject polypeptides. Double or single stranded fragments can be obtained from the DNA sequence by chemically synthesizing oligonucleotides in accordance with conventional methods, by restriction enzyme digestion, by PCR amplification, *etc.* Isolated polynucleotides and polynucleotide fragments of the invention comprise at least about 10, about 15, about 20, about 35, about 50, about 100, about 150 to about 200, about 250 to about 300, or about 350 contiguous nt selected from the polynucleotide sequences as shown in SEQ ID NOS:1-6010. For the most part, fragments will be of at least 15 nt, usually at least 18 nt or 25 nt, and up to at least about 50 contiguous nt in length or more. In a preferred embodiment, the polynucleotide molecules comprise a contiguous sequence of at least 12 nt selected from the group consisting of the polynucleotides shown in SEQ ID NOS:1-6010.

**[0034]** Probes specific to the polynucleotides of the invention can be generated using the polynucleotide sequences disclosed in SEQ ID NOS:1-6010. The probes are preferably at least about 12, 15, 16, 18, 20, 22, 24, or 25 nt fragment of a corresponding contiguous sequence of SEQ ID NOS:1-6010, and can be less than 2, 1, 0.5, 0.1, or 0.05 kb in length. The probes can be synthesized chemically or can be generated from longer polynucleotides using restriction enzymes. The probes can be labeled, for example, with a radioactive, biotinylated, or fluorescent tag. Preferably, probes are designed based upon an identifying sequence of a polynucleotide of one of SEQ ID NOS:1-6010. More preferably, probes are designed based on a contiguous sequence of one of the subject polynucleotides that remain unmasked following application of a masking program for masking low complexity (*e.g.*, XBLAST) to the sequence., *i.e.*, one would select an unmasked region, as indicated by the polynucleotides outside the poly-n stretches of the masked sequence produced by the masking program.

**[0035]** The polynucleotides of the subject invention are isolated and obtained in substantial purity, generally as other than an intact chromosome. Usually, the polynucleotides, either as DNA or RNA, will be obtained substantially free of other naturally-occurring nucleic acid sequences, generally being at least about 50%, usually at least about 90% pure and are typically "recombinant," *e.g.*, flanked by one or more nucleotides with which it is not normally associated on a naturally occurring chromosome.

**[0036]** The polynucleotides of the invention can be provided as a linear molecule or within a circular molecule, and can be provided within autonomously replicating molecules (vectors) or within molecules without replication sequences. Expression of the polynucleotides can be regulated by their

own or by other regulatory sequences known in the art. The polynucleotides of the invention can be introduced into suitable host cells using a variety of techniques available in the art, such as transferrin polycation-mediated DNA transfer, transfection with naked or encapsulated nucleic acids, liposome-mediated DNA transfer, intracellular transportation of DNA-coated latex beads, protoplast fusion, viral infection, electroporation, gene gun, calcium phosphate-mediated transfection, and the like.

[0037] The subject nucleic acid compositions can be used to, for example, produce polypeptides, as probes for the detection of mRNA of the invention in biological samples (e.g., extracts of human cells) to generate additional copies of the polynucleotides, to generate ribozymes or antisense oligonucleotides, and as single stranded DNA probes or as triple-strand forming oligonucleotides. The probes described herein can be used to, for example, determine the presence or absence of the polynucleotide sequences as shown in SEQ ID NOS:1-6010 or variants thereof in a sample. These and other uses are described in more detail below.

#### Use of Polynucleotides to Obtain Full-Length cDNA, Gene, and Promoter Region

[0038] In one embodiment, the polynucleotides are useful as starting materials to construct larger molecules. In one example, the polynucleotides of the invention are used to construct polynucleotides that encode a larger polypeptide (e.g., up to the full-length native polypeptide as well as fusion proteins comprising all or a portion of the native polypeptide) or may be used to produce haptens of the polypeptide (e.g., polypeptides useful to generate antibodies).

[0039] In one particular example, the polynucleotides of the invention are used to make or isolate cDNA molecules encoding all or portion of a naturally-occurring polypeptide. Full-length cDNA molecules comprising the disclosed polynucleotides are obtained as follows. A polynucleotide having a sequence of one of SEQ ID NOS:1-6010, or a portion thereof comprising at least 12, 15, 18, or 20 nt, is used as a hybridization probe to detect hybridizing members of a cDNA library using probe design methods, cloning methods, and clone selection techniques such as those described in USPN 5,654,173. Libraries of cDNA are made from selected tissues, such as normal or tumor tissue, or from tissues of a mammal treated with, for example, a pharmaceutical agent. Preferably, the tissue is the same as the tissue from which the polynucleotides of the invention were isolated, as both the polynucleotides described herein and the cDNA represent expressed genes. Most preferably, the cDNA library is made from the biological material described herein in the Examples. The choice of cell type for library construction can be made after the identity of the protein encoded by the gene corresponding to the polynucleotide of the invention is known. This will indicate which tissue and cell types are likely to express the related gene, and thus represent a suitable source for the mRNA for generating the cDNA. Where the provided polynucleotides are isolated from cDNA libraries, the libraries are prepared from

mRNA of human colon cells, more preferably, human colon cancer cells, even more preferably, from a highly metastatic colon cell, Km12L4-A.

**[0040]** Techniques for producing and probing nucleic acid sequence libraries are described, for example, in Sambrook et al., *Molecular Cloning: A Laboratory Manual*, 2nd Ed., (1989) Cold Spring Harbor Press, Cold Spring Harbor, NY. The cDNA can be prepared by using primers based on polynucleotides comprising a sequence of SEQ ID NOS:1-6010. In one embodiment, the cDNA library can be made from only poly-adenylated mRNA. Thus, poly-T primers can be used to prepare cDNA from the mRNA.

**[0041]** Members of the library that are larger than the provided polynucleotides, and preferably that encompass the complete coding sequence of the native message, are obtained. In order to confirm that the entire cDNA has been obtained, RNA protection experiments are performed as follows. Hybridization of a full-length cDNA to an mRNA will protect the RNA from RNase degradation. If the cDNA is not full length, then the portions of the mRNA that are not hybridized will be subject to RNase degradation. This is assayed, as is known in the art, by changes in electrophoretic mobility on polyacrylamide gels, or by detection of released monoribonucleotides. Sambrook et al., *Molecular Cloning: A Laboratory Manual*, 2nd Ed., (1989) Cold Spring Harbor Press, Cold Spring Harbor, NY. In order to obtain additional sequences 5' to the end of a partial cDNA, 5' RACE (PCR Protocols: A Guide to Methods and Applications, (1990) Academic Press, Inc.) can be performed.

**[0042]** Genomic DNA is isolated using the provided polynucleotides in a manner similar to the isolation of full-length cDNAs. Briefly, the provided polynucleotides, or portions thereof, are used as probes to libraries of genomic DNA. Preferably, the library is obtained from the cell type that was used to generate the polynucleotides of the invention, but this is not essential. Most preferably, the genomic DNA is obtained from the biological material described herein in the Examples. Such libraries can be in vectors suitable for carrying large segments of a genome, such as P1 or YAC, as described in detail in Sambrook et al., *supra*, 9.4-9.30. In addition, genomic sequences can be isolated from human BAC libraries, which are commercially available from Research Genetics, Inc., Huntsville, Alabama, USA, for example. In order to obtain additional 5' or 3' sequences, chromosome walking is performed, as described in Sambrook et al., such that adjacent and overlapping fragments of genomic DNA are isolated. These are mapped and pieced together, as is known in the art, using restriction digestion enzymes and DNA ligase.

**[0043]** Using the polynucleotide sequences of the invention, corresponding full-length genes can be isolated using both classical and PCR methods to construct and probe cDNA libraries. Using either method, Northern blots, preferably, are performed on a number of cell types to determine which cell lines express the gene of interest at the highest level. Classical methods of constructing cDNA libraries



are taught in Sambrook et al., supra. With these methods, cDNA can be produced from mRNA and inserted into viral or expression vectors. Typically, libraries of mRNA comprising poly(A) tails can be produced with poly(T) primers. Similarly, cDNA libraries can be produced using the instant sequences as primers.

**[0044]** PCR methods are used to amplify the members of a cDNA library that comprise the desired insert. In this case, the desired insert will contain sequence from the full length cDNA that corresponds to the instant polynucleotides. Such PCR methods include gene trapping and RACE methods. Gene trapping entails inserting a member of a cDNA library into a vector. The vector then is denatured to produce single stranded molecules. Next, a substrate-bound probe, such as a biotinylated oligo, is used to trap cDNA inserts of interest. Biotinylated probes can be linked to an avidin-bound solid substrate. PCR methods can be used to amplify the trapped cDNA. To trap sequences corresponding to the full length genes, the labeled probe sequence is based on the polynucleotide sequences of the invention. Random primers or primers specific to the library vector can be used to amplify the trapped cDNA. Such gene trapping techniques are described in Gruber et al., WO 95/04745 and Gruber et al., USPN 5,500,356. Kits are commercially available to perform gene trapping experiments from, for example, Life Technologies, Gaithersburg, Maryland, USA.

**[0045]** "Rapid amplification of cDNA ends," or RACE, is a PCR method of amplifying cDNAs from a number of different RNAs. The cDNAs are ligated to an oligonucleotide linker, and amplified by PCR using two primers. One primer is based on sequence from the instant polynucleotides, for which full length sequence is desired, and a second primer comprises sequence that hybridizes to the oligonucleotide linker to amplify the cDNA. A description of this method is reported in WO 97/19110. In preferred embodiments of RACE, a common primer is designed to anneal to an arbitrary adaptor sequence ligated to cDNA ends (Apte and Siebert, *Biotechniques* (1993) 15:890-893; Edwards et al., *Nuc. Acids Res.* (1991) 19:5227-5232). When a single gene-specific RACE primer is paired with the common primer, preferential amplification of sequences between the single gene specific primer and the common primer occurs. Commercial cDNA pools modified for use in RACE are available.

**[0046]** Another PCR-based method generates full-length cDNA library with anchored ends without needing specific knowledge of the cDNA sequence. The method uses lock-docking primers (I-VI), where one primer, poly TV (I-III) locks over the polyA tail of eukaryotic mRNA producing first strand synthesis and a second primer, polyGH (IV-VI) locks onto the polyC tail added by terminal deoxynucleotidyl transferase (TdT)(see, e.g., WO 96/40998).

**[0047]** The promoter region of a gene generally is located 5' to the initiation site for RNA polymerase II. Hundreds of promoter regions contain the "TATA" box, a sequence such as TATTA or

TATAA, which is sensitive to mutations. The promoter region can be obtained by performing 5' RACE using a primer from the coding region of the gene. Alternatively, the cDNA can be used as a probe for the genomic sequence, and the region 5' to the coding region is identified by "walking up." If the gene is highly expressed or differentially expressed, the promoter from the gene can be of use in a regulatory construct for a heterologous gene.

**[0048]** Once the full-length cDNA or gene is obtained, DNA encoding variants can be prepared by site-directed mutagenesis, described in detail in Sambrook et al., 15.3-15.63. The choice of codon or nucleotide to be replaced can be based on disclosure herein on optional changes in amino acids to achieve altered protein structure and/or function.

**[0049]** As an alternative method to obtaining DNA or RNA from a biological material, nucleic acid comprising nucleotides having the sequence of one or more polynucleotides of the invention can be synthesized. Thus, the invention encompasses nucleic acid molecules ranging in length from 15 nt (corresponding to at least 15 contiguous nt of one of SEQ ID NOS:1-6010) up to a maximum length suitable for one or more biological manipulations, including replication and expression, of the nucleic acid molecule. The invention includes but is not limited to (a) nucleic acid having the size of a full gene, and comprising at least one of SEQ ID NOS:1-6010; (b) the nucleic acid of (a) also comprising at least one additional gene, operably linked to permit expression of a fusion protein; (c) an expression vector comprising (a) or (b); (d) a plasmid comprising (a) or (b); and (e) a recombinant viral particle comprising (a) or (b). Once provided with the polynucleotides disclosed herein, construction or preparation of (a) - (e) are well within the skill in the art.

**[0050]** The sequence of a nucleic acid comprising at least 15 contiguous nt of at least any one of SEQ ID NOS:1-6010, preferably the entire sequence of at least any one of SEQ ID NOS:1-6010, is not limited and can be any sequence of A, T, G, and/or C (for DNA) and A, U, G, and/or C (for RNA) or modified bases thereof, including inosine and pseudouridine. The choice of sequence will depend on the desired function and can be dictated by coding regions desired, the intron-like regions desired, and the regulatory regions desired. Where the entire sequence of any one of SEQ ID NOS:1-6010 is within the nucleic acid, the nucleic acid obtained is referred to herein as a polynucleotide comprising the sequence of any one of SEQ ID NOS:1-6010.

#### Expression of Polypeptide Encoded by Full-Length cDNA or Full-Length Gene

**[0051]** The provided polynucleotides (*e.g.*, a polynucleotide having a sequence of one of SEQ ID NOS:1-6010), the corresponding cDNA, or the full-length gene is used to express a partial or complete gene product. Constructs of polynucleotides having sequences of SEQ ID NOS:1-6010 can also be generated synthetically. Alternatively, single-step assembly of a gene and entire plasmid from large numbers of oligodeoxyribonucleotides is described by, *e.g.*, Stemmer et al., *Gene* (Amsterdam) (1995)

164(1):49-53. In this method, assembly PCR (the synthesis of long DNA sequences from large numbers of oligodeoxyribonucleotides (oligos)) is described. The method is derived from DNA shuffling (Stemmer, Nature (1994) 370:389-391), and does not rely on DNA ligase, but instead relies on DNA polymerase to build increasingly longer DNA fragments during the assembly process.

[0052] Appropriate polynucleotide constructs are purified using standard recombinant DNA techniques as described in, for example, Sambrook *et al.*, *Molecular Cloning: A Laboratory Manual*, 2nd Ed., (1989) Cold Spring Harbor Press, Cold Spring Harbor, NY, and under current regulations described in United States Dept. of HHS, National Institute of Health (NIH) Guidelines for Recombinant DNA Research. The gene product encoded by a polynucleotide of the invention is expressed in any expression system, including, for example, bacterial, yeast, insect, amphibian and mammalian systems. Vectors, host cells and methods for obtaining expression in same are well known in the art. Suitable vectors and host cells are described in USPN 5,654,173.

[0053] Polynucleotide molecules comprising a polynucleotide sequence provided herein are generally propagated by placing the molecule in a vector. Viral and non-viral vectors are used, including plasmids. The choice of plasmid will depend on the type of cell in which propagation is desired and the purpose of propagation. Certain vectors are useful for amplifying and making large amounts of the desired DNA sequence. Other vectors are suitable for expression in cells in culture. Still other vectors are suitable for transfer and expression in cells in a whole animal or person. The choice of appropriate vector is well within the skill of the art. Many such vectors are available commercially. Methods for preparation of vectors comprising a desired sequence are well known in the art.

[0054] The polynucleotides set forth in SEQ ID NOS:1-6010 or their corresponding full-length polynucleotides are linked to regulatory sequences as appropriate to obtain the desired expression properties. These can include promoters (attached either at the 5' end of the sense strand or at the 3' end of the antisense strand), enhancers, terminators, operators, repressors, and inducers. The promoters can be regulated or constitutive. In some situations it may be desirable to use conditionally active promoters, such as tissue-specific or developmental stage-specific promoters. These are linked to the desired nucleotide sequence using the techniques described above for linkage to vectors. Any techniques known in the art can be used.

[0055] When any of the above host cells, or other appropriate host cells or organisms, are used to replicate and/or express the polynucleotides or nucleic acids of the invention, the resulting replicated nucleic acid, RNA, expressed protein or polypeptide, is within the scope of the invention as a product of the host cell or organism. The product is recovered by any appropriate means known in the art.

[0056] Once the gene corresponding to a selected polynucleotide is identified, its expression can be regulated in the cell to which the gene is native. For example, an endogenous gene of a cell can be regulated by an exogenous regulatory sequence as disclosed in USPN 5,641,670.

Identification of Functional and Structural Motifs

[0057] Translations of the nucleotide sequence of the provided polynucleotides, cDNAs or full genes can be aligned with individual known sequences. Similarity with individual sequences can be used to determine the activity of the polypeptides encoded by the polynucleotides of the invention. Also, sequences exhibiting similarity with more than one individual sequence can exhibit activities that are characteristic of either or both individual sequences.

[0058] The full length sequences and fragments of the polynucleotide sequences of the nearest neighbors can be used as probes and primers to identify and isolate the full length sequence corresponding to provided polynucleotides. The nearest neighbors can indicate a tissue or cell type to be used to construct a library for the full-length sequences corresponding to the provided polynucleotides.

[0059] Typically, a selected polynucleotide is translated in all six frames to determine the best alignment with the individual sequences. The sequences disclosed herein in the Sequence Listing are in a 5' to 3' orientation and translation in three frames can be sufficient (with a few specific exceptions as described in the Examples). These amino acid sequences are referred to, generally, as query sequences, which will be aligned with the individual sequences. Databases with individual sequences are described in "Computer Methods for Macromolecular Sequence Analysis" *Methods in Enzymology* (1996) 266, Doolittle, Academic Press, Inc., a division of Harcourt Brace & Co., San Diego, California, USA. Databases include GenBank, EMBL, and DNA Database of Japan (DDBJ).

[0060] Query and individual sequences can be aligned using the methods and computer programs described above, and include BLAST 2.0, available over the world wide web at a site supported by the National Center for Biotechnology Information, which is supported by the National Library of Medicine and the National Institutes of Health. See also Altschul, et al. *Nucleic Acids Res.* (1997) 25:3389-3402. Another alignment algorithm is Fasta, available in the Genetics Computing Group (GCG) package, Madison, Wisconsin, USA, a wholly owned subsidiary of Oxford Molecular Group, Inc. Other techniques for alignment are described in Doolittle, supra. Preferably, an alignment program that permits gaps in the sequence is utilized to align the sequences. The Smith-Waterman is one type of algorithm that permits gaps in sequence alignments. See *Meth. Mol. Biol.* (1997) 70: 173-187. Also, the GAP program using the Needleman and Wunsch alignment method can be utilized to align sequences. An alternative search strategy uses MPSRCH software, which runs on a MASPAR computer. MPSRCH uses a Smith-Waterman algorithm to score sequences on a massively parallel

computer. This approach improves ability to identify sequences that are distantly related matches, and is especially tolerant of small gaps and nucleotide sequence errors. Amino acid sequences encoded by the provided polynucleotides can be used to search both protein and DNA databases. Incorporated herein by reference are all sequences that have been made public as of the filing date of this application by any of the DNA or protein sequence databases, including the patent databases (*e.g.*, GeneSeq). Also incorporated by reference are those sequences that have been submitted to these databases as of the filing date of the present application but not made public until after the filing date of the present application.

**[0061]** Results of individual and query sequence alignments can be divided into three categories: high similarity, weak similarity, and no similarity. Individual alignment results ranging from high similarity to weak similarity provide a basis for determining polypeptide activity and/or structure. Parameters for categorizing individual results include: percentage of the alignment region length where the strongest alignment is found, percent sequence identity, and p value. The percentage of the alignment region length is calculated by counting the number of residues of the individual sequence found in the region of strongest alignment, *e.g.*, contiguous region of the individual sequence that contains the greatest number of residues that are identical to the residues of the corresponding region of the aligned query sequence. This number is divided by the total residue length of the query sequence to calculate a percentage. For example, a query sequence of 20 amino acid residues might be aligned with a 20 amino acid region of an individual sequence. The individual sequence might be identical to amino acid residues 5, 9-15, and 17-19 of the query sequence. The region of strongest alignment is thus the region stretching from residue 9-19, an 11 amino acid stretch. The percentage of the alignment region length is: 11 (length of the region of strongest alignment) divided by (query sequence length) 20 or 55%.

**[0062]** Percent sequence identity is calculated by counting the number of amino acid matches between the query and individual sequence and dividing total number of matches by the number of residues of the individual sequences found in the region of strongest alignment. Thus, the percent identity in the example above would be 10 matches divided by 11 amino acids, or approximately, 90.9%

**[0063]** P value is the probability that the alignment was produced by chance. For a single alignment, the p value can be calculated according to Karlin et al., Proc. Natl. Acad. Sci. (1990) 87:2264 and Karlin et al., Proc. Natl. Acad. Sci. (1993) 90. The p value of multiple alignments using the same query sequence can be calculated using an heuristic approach described in Altschul et al., Nat. Genet. (1994) 6:119. Alignment programs such as BLAST program can calculate the p value. See also Altschul et al., Nucleic Acids Res. (1997) 25:3389-3402.

[0064] Another factor to consider for determining identity or similarity is the location of the similarity or identity. Strong local alignment can indicate similarity even if the length of alignment is short. Sequence identity scattered throughout the length of the query sequence also can indicate a similarity between the query and profile sequences. The boundaries of the region where the sequences align can be determined according to Doolittle, supra; BLAST 2.0 (see, e.g., Altschul, et al. Nucleic Acids Res. (1997) 25:3389-3402) or FAST programs; or by determining the area where sequence identity is highest.

[0065] High Similarity. In general, in alignment results considered to be of high similarity, the percent of the alignment region length is typically at least about 55% of total length query sequence; more typically, at least about 58%; even more typically; at least about 60% of the total residue length of the query sequence. Usually, percent length of the alignment region can be as much as about 62%; more usually, as much as about 64%; even more usually, as much as about 66%. Further, for high similarity, the region of alignment, typically, exhibits at least about 75% of sequence identity; more typically, at least about 78%; even more typically; at least about 80% sequence identity. Usually, percent sequence identity can be as much as about 82%; more usually, as much as about 84%; even more usually, as much as about 86%.

[0066] The p value is used in conjunction with these methods. If high similarity is found, the query sequence is considered to have high similarity with a profile sequence when the p value is less than or equal to about  $10e-2$ ; more usually; less than or equal to about  $10e-3$ ; even more usually; less than or equal to about  $10e-4$ . More typically, the p value is no more than about  $10e-5$ ; more typically; no more than or equal to about  $10e-10$ ; even more typically, no more than or equal to about  $10e-15$  for the query sequence to be considered high similarity.

[0067] Weak Similarity. In general, where alignment results considered to be of weak similarity, there is no minimum percent length of the alignment region nor minimum length of alignment. A better showing of weak similarity is considered when the region of alignment is, typically, at least about 15 amino acid residues in length; more typically, at least about 20; even more typically, at least about 25 amino acid residues in length. Usually, length of the alignment region can be as much as about 30 amino acid residues; more usually, as much as about 40; even more usually, as much as about 60 amino acid residues. Further, for weak similarity, the region of alignment, typically, exhibits at least about 35% of sequence identity; more typically, at least about 40%; even more typically, at least about 45% sequence identity. Usually, percent sequence identity can be as much as about 50%; more usually, as much as about 55%; even more usually, as much as about 60%.

[0068] If low similarity is found, the query sequence is considered to have weak similarity with a profile sequence when the p value is usually less than or equal to about  $10e-2$ ; more usually, less than

or equal to about  $10e-3$ ; even more usually; less than or equal to about  $10e-4$ . More typically, the p value is no more than about  $10e-5$ ; more usually; no more than or equal to about  $10e-10$ ; even more usually, no more than or equal to about  $10e-15$  for the query sequence to be considered weak similarity.

**[0069]** Similarity Determined by Sequence Identity Alone. Sequence identity alone can be used to determine similarity of a query sequence to an individual sequence and can indicate the activity of the sequence. Such an alignment, preferably, permits gaps to align sequences. Typically, the query sequence is related to the profile sequence if the sequence identity over the entire query sequence is at least about 15%; more typically, at least about 20%; even more typically, at least about 25%; even more typically, at least about 50%. Sequence identity alone as a measure of similarity is most useful when the query sequence is usually, at least 80 residues in length; more usually, at least 90 residues in length; even more usually, at least 95 amino acid residues in length. More typically, similarity can be concluded based on sequence identity alone when the query sequence is preferably 100 residues in length; more preferably, 120 residues in length; even more preferably, 150 amino acid residues in length.

**[0070]** Alignments with Profile and Multiple Aligned Sequences. Translations of the provided polynucleotides can be aligned with amino acid profiles that define either protein families or common motifs. Also, translations of the provided polynucleotides can be aligned to multiple sequence alignments (MSA) comprising the polypeptide sequences of members of protein families or motifs. Similarity or identity with profile sequences or MSAs can be used to determine the activity of the gene products (e.g., polypeptides) encoded by the provided polynucleotides or corresponding cDNA or genes. For example, sequences that show an identity or similarity with a chemokine profile or MSA can exhibit chemokine activities.

**[0071]** Profiles can be designed manually by (1) creating an MSA, which is an alignment of the amino acid sequence of members that belong to the family and (2) constructing a statistical representation of the alignment. Such methods are described, for example, in Birney et al., Nucl. Acid Res. (1996) 24(14): 2730-2739. MSAs of some protein families and motifs are publicly available. For example, the Genome Sequencing Center at the Washington University School of Medicine provides a web set (Pfam) which provides MSAs of 547 different families and motifs. These MSAs are described also in Sonnhammer et al., Proteins (1997) 28: 405-420. Other sources over the world wide web include the site supported by the European Molecular Biology Laboratories in Heidelberg, Germany. A brief description of these MSAs is reported in Pascarella et al., Prot. Eng. (1996) 9(3):249-251. Techniques for building profiles from MSAs are described in Sonnhammer et al., supra; Birney et al., supra; and "Computer Methods for Macromolecular Sequence Analysis," Methods in Enzymology (1996) 266, Doolittle, Academic Press, Inc., San Diego, California, USA.

[0072] Similarity between a query sequence and a protein family or motif can be determined by (a) comparing the query sequence against the profile and/or (b) aligning the query sequence with the members of the family or motif. Typically, a program such as Searchwise is used to compare the query sequence to the statistical representation of the multiple alignment, also known as a profile (see Birney et al., supra). Other techniques to compare the sequence and profile are described in Sonnhammer et al., supra and Doolittle, supra.

[0073] Next, methods described by Feng et al., J. Mol. Evol. (1987) 25:351 and Higgins et al., CABIOS (1989) 5:151 can be used align the query sequence with the members of a family or motif, also known as a MSA. Sequence alignments can be generated using any of a variety of software tools. Examples include PileUp, which creates a multiple sequence alignment, and is described in Feng et al., J. Mol. Evol. (1987) 25:351. Another method, GAP, uses the alignment method of Needleman et al., J. Mol. Biol. (1970) 48:443. GAP is best suited for global alignment of sequences. A third method, BestFit, functions by inserting gaps to maximize the number of matches using the local homology algorithm of Smith et al., Adv. Appl. Math. (1981) 2:482. In general, the following factors are used to determine if a similarity between a query sequence and a profile or MSA exists: (1) number of conserved residues found in the query sequence, (2) percentage of conserved residues found in the query sequence, (3) number of frameshifts, and (4) spacing between conserved residues.

[0074] Some alignment programs that both translate and align sequences can make any number of frameshifts when translating the nucleotide sequence to produce the best alignment. The fewer frameshifts needed to produce an alignment, the stronger the similarity or identity between the query and profile or MSAs. For example, a weak similarity resulting from no frameshifts can be a better indication of activity or structure of a query sequence, than a strong similarity resulting from two frameshifts. Preferably, three or fewer frameshifts are found in an alignment; more preferably two or fewer frameshifts; even more preferably, one or fewer frameshifts; even more preferably, no frameshifts are found in an alignment of query and profile or MSAs.

[0075] Conserved residues are those amino acids found at a particular position in all or some of the family or motif members. Alternatively, a position is considered conserved if only a certain class of amino acids is found in a particular position in all or some of the family members. For example, the N-terminal position can contain a positively charged amino acid, such as lysine, arginine, or histidine.

[0076] Typically, a residue of a polypeptide is conserved when a class of amino acids or a single amino acid is found at a particular position in at least about 40% of all class members; more typically, at least about 50%; even more typically, at least about 60% of the members. Usually, a residue is conserved when a class or single amino acid is found in at least about 70% of the members of a family



or motif; more usually, at least about 80%; even more usually, at least about 90%; even more usually, at least about 95%.

[0077] A residue is considered conserved when three unrelated amino acids are found at a particular position in some or all of the members; more usually, two unrelated amino acids. These residues are conserved when the unrelated amino acids are found at particular positions in at least about 40% of all class member; more typically, at least about 50%; even more typically, at least about 60% of the members. Usually, a residue is conserved when a class or single amino acid is found in at least about 70% of the members of a family or motif; more usually, at least about 80%; even more usually, at least about 90%; even more usually, at least about 95%.

[0078] A query sequence has similarity to a profile or MSA when the query sequence comprises at least about 25% of the conserved residues of the profile or MSA; more usually, at least about 30%; even more usually; at least about 40%. Typically, the query sequence has a stronger similarity to a profile sequence or MSA when the query sequence comprises at least about 45% of the conserved residues of the profile or MSA; more typically, at least about 50%; even more typically, at least about 55%.

[0079] Identification of Secreted & Membrane-Bound Polypeptides. Both secreted and membrane-bound polypeptides of the present invention are of particular interest. For example, levels of secreted polypeptides can be assayed in body fluids that are convenient, such as blood, plasma, serum, and other body fluids such as urine, prostatic fluid and semen. Membrane-bound polypeptides are useful for constructing vaccine antigens or inducing an immune response. Such antigens would comprise all or part of the extracellular region of the membrane-bound polypeptides. Because both secreted and membrane-bound polypeptides comprise a fragment of contiguous hydrophobic amino acids, hydrophobicity predicting algorithms can be used to identify such polypeptides.

[0080] A signal sequence is usually encoded by both secreted and membrane-bound polypeptide genes to direct a polypeptide to the surface of the cell. The signal sequence usually comprises a stretch of hydrophobic residues. Such signal sequences can fold into helical structures. Membrane-bound polypeptides typically comprise at least one transmembrane region that possesses a stretch of hydrophobic amino acids that can transverse the membrane. Some transmembrane regions also exhibit a helical structure. Hydrophobic fragments within a polypeptide can be identified by using computer algorithms. Such algorithms include Hopp & Woods, Proc. Natl. Acad. Sci. USA (1981) 78:3824-3828; Kyte & Doolittle, J. Mol. Biol. (1982) 157: 105-132; and RAOAR algorithm, Degli Esposti et al., Eur. J. Biochem. (1990) 190: 207-219.

[0081] Another method of identifying secreted and membrane-bound polypeptides is to translate the polynucleotides of the invention in all six frames and determine if at least 8 contiguous

hydrophobic amino acids are present. Those translated polypeptides with at least 8; more typically, 10; even more typically, 12 contiguous hydrophobic amino acids are considered to be either a putative secreted or membrane bound polypeptide. Hydrophobic amino acids include alanine, glycine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, threonine, tryptophan, tyrosine, and valine

#### Identification of the Function of an Expression Product of a Full-Length Gene

**[0082]** Ribozymes, antisense constructs, and dominant negative mutants can be used to determine function of the expression product of a gene corresponding to a polynucleotide provided herein. These methods and compositions are particularly useful where the provided novel polynucleotide exhibits no significant or substantial homology to a sequence encoding a gene of known function. Antisense molecules and ribozymes can be constructed from synthetic polynucleotides. Typically, the phosphoramidite method of oligonucleotide synthesis is used. See Beaucage et al., Tet. Lett. (1981) 22:1859 and USPN 4,668,777. Automated devices for synthesis are available to create oligonucleotides using this chemistry. Examples of such devices include Biosearch 8600, Models 392 and 394 by Applied Biosystems, a division of Perkin-Elmer Corp., Foster City, California, USA; and Expedite by Perceptive Biosystems, Framingham, Massachusetts, USA. Synthetic RNA, phosphate analog oligonucleotides, and chemically derivatized oligonucleotides can also be produced, and can be covalently attached to other molecules. RNA oligonucleotides can be synthesized, for example, using RNA phosphoramidites. This method can be performed on an automated synthesizer, such as Applied Biosystems, Models 392 and 394, Foster City, California, USA.

**[0083]** Phosphorothioate oligonucleotides can also be synthesized for antisense construction. A sulfurizing reagent, such as tetraethylthiuram disulfide (TETD) in acetonitrile can be used to convert the internucleotide cyanoethyl phosphite to the phosphorothioate triester within 15 minutes at room temperature. TETD replaces the iodine reagent, while all other reagents used for standard phosphoramidite chemistry remain the same. Such a synthesis method can be automated using Models 392 and 394 by Applied Biosystems, for example.

**[0084]** Oligonucleotides of up to 200 nt can be synthesized, more typically, 100 nt; more typically 50 nt; even more typically, 30 to 40 nt. These synthetic fragments can be annealed and ligated together to construct larger fragments. See, for example, Sambrook et al., supra. Trans-cleaving catalytic RNAs (ribozymes) are RNA molecules possessing endoribonuclease activity. Ribozymes are specifically designed for a particular target, and the target message must contain a specific nucleotide sequence. They are engineered to cleave any RNA species site-specifically in the background of cellular RNA. The cleavage event renders the mRNA unstable and prevents protein expression. Importantly, ribozymes can be used to inhibit expression of a gene of unknown function for the

purpose of determining its function in an in vitro or in vivo context, by detecting the phenotypic effect.

One commonly used ribozyme motif is the hammerhead, for which the substrate sequence requirements are minimal. Design of the hammerhead ribozyme, as well as therapeutic uses of ribozymes, are disclosed in Usman et al., *Current Opin. Struct. Biol.* (1996) 6:527. Methods for production of ribozymes, including hairpin structure ribozyme fragments, methods of increasing ribozyme specificity, and the like are known in the art.

**[0085]** The hybridizing region of the ribozyme can be modified or can be prepared as a branched structure as described in Horn and Urdea, *Nucleic Acids Res.* (1989) 17:6959. The basic structure of the ribozymes can also be chemically altered in ways familiar to those skilled in the art, and chemically synthesized ribozymes can be administered as synthetic oligonucleotide derivatives modified by monomeric units. In a therapeutic context, liposome mediated delivery of ribozymes improves cellular uptake, as described in Birikh et al., *Eur. J. Biochem.* (1997) 245:1.

**[0086]** Antisense nucleic acids are designed to specifically bind to RNA, resulting in the formation of RNA-DNA or RNA-RNA hybrids, with an arrest of DNA replication, reverse transcription or messenger RNA translation. Antisense polynucleotides based on a selected polynucleotide sequence can interfere with expression of the corresponding gene. Antisense polynucleotides are typically generated within the cell by expression from antisense constructs that contain the antisense strand as the transcribed strand. Antisense polynucleotides based on the disclosed polynucleotides will bind and/or interfere with the translation of mRNA comprising a sequence complementary to the antisense polynucleotide. The expression products of control cells and cells treated with the antisense construct are compared to detect the protein product of the gene corresponding to the polynucleotide upon which the antisense construct is based. The protein is isolated and identified using routine biochemical methods.

**[0087]** Given the extensive background literature and clinical experience in antisense therapy, one skilled in the art can use selected polynucleotides of the invention as additional potential therapeutics. The choice of polynucleotide can be narrowed by first testing them for binding to "hot spot" regions of the genome of cancerous cells. If a polynucleotide is identified as binding to a "hot spot," testing the polynucleotide as an antisense compound in the corresponding cancer cells is warranted.

**[0088]** As an alternative method for identifying function of the gene corresponding to a polynucleotide disclosed herein, dominant negative mutations are readily generated for corresponding proteins that are active as homomultimers. A mutant polypeptide will interact with wild-type polypeptides (made from the other allele) and form a non-functional multimer. Thus, a mutation is in a substrate-binding domain, a catalytic domain, or a cellular localization domain. Preferably, the mutant polypeptide will be overproduced. Point mutations are made that have such an effect. In addition,

fusion of different polypeptides of various lengths to the terminus of a protein can yield dominant negative mutants. General strategies are available for making dominant negative mutants (see, e.g., Herskowitz, Nature (1987) 329:219). Such techniques can be used to create loss of function mutations, which are useful for determining protein function.

Polypeptides and Variants Thereof

[0089] The polypeptides of the invention include those encoded by the disclosed polynucleotides, as well as nucleic acids that, by virtue of the degeneracy of the genetic code, are not identical in sequence to the disclosed polynucleotides. Thus, the invention includes within its scope a polypeptide encoded by a polynucleotide having the sequence of any one of SEQ ID NOS:1-6010 or a variant thereof.

[0090] In general, the term "polypeptide" as used herein refers to both the full length polypeptide encoded by the recited polynucleotide, the polypeptide encoded by the gene represented by the recited polynucleotide, as well as portions or fragments thereof. "Polypeptides" also includes variants of the naturally occurring proteins, where such variants are homologous or substantially similar to the naturally occurring protein, and can be of an origin of the same or different species as the naturally occurring protein (e.g., human, murine, or some other species that naturally expresses the recited polypeptide, usually a mammalian species). In general, variant polypeptides have a sequence that has at least about 80%, usually at least about 90%, and more usually at least about 98% sequence identity with a differentially expressed polypeptide of the invention, as measured by BLAST 2.0 using the parameters described above. The variant polypeptides can be naturally or non-naturally glycosylated, i.e., the polypeptide has a glycosylation pattern that differs from the glycosylation pattern found in the corresponding naturally occurring protein.

[0091] The invention also encompasses homologs of the disclosed polypeptides (or fragments thereof) where the homologs are isolated from other species, i.e. other animal or plant species, where such homologs, usually mammalian species, e.g. rodents, such as mice, rats; domestic animals, e.g., horse, cow, dog, cat; and humans. By "homolog" is meant a polypeptide having at least about 35%, usually at least about 40% and more usually at least about 60% amino acid sequence identity to a particular differentially expressed protein as identified above, where sequence identity is determined using the BLAST 2.0 algorithm, with the parameters described supra.

[0092] In general, the polypeptides of the subject invention are provided in a non-naturally occurring environment, e.g. are separated from their naturally occurring environment. In certain embodiments, the subject protein is present in a composition that is enriched for the protein as compared to a control. As such, purified polypeptide is provided, where by purified is meant that the protein is present in a composition that is substantially free of non-differentially expressed

polypeptides, where by substantially free is meant that less than 90%, usually less than 60% and more usually less than 50% of the composition is made up of non-differentially expressed polypeptides.

**[0093]** Also within the scope of the invention are variants; variants of polypeptides include mutants, fragments, and fusions. Mutants can include amino acid substitutions, additions or deletions. The amino acid substitutions can be conservative amino acid substitutions or substitutions to eliminate non-essential amino acids, such as to alter a glycosylation site, a phosphorylation site or an acetylation site, or to minimize misfolding by substitution or deletion of one or more cysteine residues that are not necessary for function. Conservative amino acid substitutions are those that preserve the general charge, hydrophobicity/ hydrophilicity, and/or steric bulk of the amino acid substituted. Variants can be designed so as to retain or have enhanced biological activity of a particular region of the protein (e.g., a functional domain and/or, where the polypeptide is a member of a protein family, a region associated with a consensus sequence). Selection of amino acid alterations for production of variants can be based upon the accessibility (interior vs. exterior) of the amino acid (see, e.g., Go et al, Int. J. Peptide Protein Res. (1980) 15:211), the thermostability of the variant polypeptide (see, e.g., Querol et al., Prot. Eng. (1996) 9:265), desired glycosylation sites (see, e.g., Olsen and Thomsen, J. Gen. Microbiol. (1991) 137:579), desired disulfide bridges (see, e.g., Clarke et al., Biochemistry (1993) 32:4322; and Wakarchuk et al., Protein Eng. (1994) 7:1379), desired metal binding sites (see, e.g., Toma et al., Biochemistry (1991) 30:97, and Haezebrouck et al., Protein Eng. (1993) 6:643), and desired substitutions within proline loops (see, e.g., Masul et al., Appl. Env. Microbiol. (1994) 60:3579). Cysteine-depleted muteins can be produced as disclosed in USPN 4,959,314.

**[0094]** Variants also include fragments of the polypeptides disclosed herein, particularly haptens, biologically active fragments, and/or fragments corresponding to functional domains. Fragments of interest will typically be at least about 10 aa to at least about 15 aa in length, usually at least about 50 aa in length, and can be as long as 300 aa in length or longer, but will usually not exceed about 1000 aa in length, where the fragment will have a stretch of amino acids that is identical to a polypeptide encoded by a polynucleotide having a sequence of any SEQ ID NOS:1-6010, or a homolog thereof. The protein variants described herein are encoded by polynucleotides that are within the scope of the invention. The genetic code can be used to select the appropriate codons to construct the corresponding variants.

#### Computer-Related Embodiments

**[0095]** In general, a library of polynucleotides is a collection of sequence information, which information is provided in either biochemical form (e.g., as a collection of polynucleotide molecules), or in electronic form (e.g., as a collection of polynucleotide sequences stored in a computer-readable form, as in a computer system and/or as part of a computer program). The sequence information of the

polynucleotides can be used in a variety of ways, e.g., as a resource for gene discovery, as a representation of sequences expressed in a selected cell type (e.g., cell type markers), and/or as markers of a given disease or disease state. In general, a disease marker is a representation of a gene product that is present in all cells affected by disease either at an increased or decreased level relative to a normal cell (e.g., a cell of the same or similar type that is not substantially affected by disease). For example, a polynucleotide sequence in a library can be a polynucleotide that represents an mRNA, polypeptide, or other gene product encoded by the polynucleotide, that is either overexpressed or underexpressed in a breast ductal cell affected by cancer relative to a normal (i.e., substantially disease-free) breast cell.

**[0096]** The nucleotide sequence information of the library can be embodied in any suitable form, e.g., electronic or biochemical forms. For example, a library of sequence information embodied in electronic form comprises an accessible computer data file (or, in biochemical form, a collection of nucleic acid molecules) that contains the representative nucleotide sequences of genes that are differentially expressed (e.g., overexpressed or underexpressed) as between, for example, i) a cancerous cell and a normal cell; ii) a cancerous cell and a dysplastic cell; iii) a cancerous cell and a cell affected by a disease or condition other than cancer; iv) a metastatic cancerous cell and a normal cell and/or non-metastatic cancerous cell; v) a malignant cancerous cell and a non-malignant cancerous cell (or a normal cell) and/or vi) a dysplastic cell relative to a normal cell. Other combinations and comparisons of cells affected by various diseases or stages of disease will be readily apparent to the ordinarily skilled artisan. Biochemical embodiments of the library include a collection of nucleic acids that have the sequences of the genes in the library, where the nucleic acids can correspond to the entire gene in the library or to a fragment thereof, as described in greater detail below.

**[0097]** The polynucleotide libraries of the subject invention generally comprise sequence information of a plurality of polynucleotide sequences, where at least one of the polynucleotides has a sequence of any of SEQ ID NOS:1-6010. By plurality is meant at least 2, usually at least 3 and can include up to all of SEQ ID NOS:1-6010. The length and number of polynucleotides in the library will vary with the nature of the library, e.g., if the library is an oligonucleotide array, a cDNA array, a computer database of the sequence information, etc.

**[0098]** Where the library is an electronic library, the nucleic acid sequence information can be present in a variety of media. "Media" refers to a manufacture, other than an isolated nucleic acid molecule, that contains the sequence information of the present invention. Such a manufacture provides the genome sequence or a subset thereof in a form that can be examined by means not directly applicable to the sequence as it exists in a nucleic acid. For example, the nucleotide sequence of the present invention, e.g. the nucleic acid sequences of any of the polynucleotides of SEQ ID NOS:1-

6010, can be recorded on computer readable media, e.g. any medium that can be read and accessed directly by a computer. Such media include, but are not limited to: magnetic storage media, such as a floppy disc, a hard disc storage medium, and a magnetic tape; optical storage media such as CD-ROM; electrical storage media such as RAM and ROM; and hybrids of these categories such as magnetic/optical storage media. One of skill in the art can readily appreciate how any of the presently known computer readable mediums can be used to create a manufacture comprising a recording of the present sequence information. "Recorded" refers to a process for storing information on computer readable medium, using any such methods as known in the art. Any convenient data storage structure can be chosen, based on the means used to access the stored information. A variety of data processor programs and formats can be used for storage, e.g. word processing text file, database format, etc. In addition to the sequence information, electronic versions of the libraries of the invention can be provided in conjunction or connection with other computer-readable information and/or other types of computer-readable files (e.g., searchable files, executable files, etc, including, but not limited to, for example, search program software, etc.).

[0099] By providing the nucleotide sequence in computer readable form, the information can be accessed for a variety of purposes. Computer software to access sequence information is publicly available. For example, the gapped BLAST (Altschul et al. Nucleic Acids Res. (1997) 25:3389-3402) and BLAZE (Brutlag et al. Comp. Chem. (1993) 17:203) search algorithms on a Sybase system can be used to identify open reading frames (ORFs) within the genome that contain homology to ORFs from other organisms.

[00100] As used herein, "a computer-based system" refers to the hardware means, software means, and data storage means used to analyze the nucleotide sequence information of the present invention. The minimum hardware of the computer-based systems of the present invention comprises a central processing unit (CPU), input means, output means, and data storage means. A skilled artisan can readily appreciate that any one of the currently available computer-based system are suitable for use in the present invention. The data storage means can comprise any manufacture comprising a recording of the present sequence information as described above, or a memory access means that can access such a manufacture.

[00101] "Search means" refers to one or more programs implemented on the computer-based system, to compare a target sequence or target structural motif, or expression levels of a polynucleotide in a sample, with the stored sequence information. Search means can be used to identify fragments or regions of the genome that match a particular target sequence or target motif. A variety of known algorithms are publicly known and commercially available, e.g. MacPattern (EMBL), BLASTN and BLASTX (NCBI). A "target sequence" can be any polynucleotide or amino acid sequence of six or

more contiguous nucleotides or two or more amino acids, preferably from about 10 to 100 amino acids or from about 30 to 300 nt. A variety of comparing means can be used to accomplish comparison of sequence information from a sample (e.g., to analyze target sequences, target motifs, or relative expression levels) with the data storage means. A skilled artisan can readily recognize that any one of the publicly available homology search programs can be used as the search means for the computer based systems of the present invention to accomplish comparison of target sequences and motifs. Computer programs to analyze expression levels in a sample and in controls are also known in the art.

**[00102]** A "target structural motif," or "target motif," refers to any rationally selected sequence or combination of sequences in which the sequence(s) are chosen based on a three-dimensional configuration that is formed upon the folding of the target motif, or on consensus sequences of regulatory or active sites. There are a variety of target motifs known in the art. Protein target motifs include, but are not limited to, enzyme active sites and signal sequences. Nucleic acid target motifs include, but are not limited to, hairpin structures, promoter sequences and other expression elements such as binding sites for transcription factors.

**[00103]** A variety of structural formats for the input and output means can be used to input and output the information in the computer-based systems of the present invention. One format for an output means ranks the relative expression levels of different polynucleotides. Such presentation provides a skilled artisan with a ranking of relative expression levels to determine a gene expression profile.

**[00104]** As discussed above, the "library" of the invention also encompasses biochemical libraries of the polynucleotides of SEQ ID NOS:1-6010, e.g., collections of nucleic acids representing the provided polynucleotides. The biochemical libraries can take a variety of forms, e.g., a solution of cDNAs, a pattern of probe nucleic acids stably associated with a surface of a solid support (i.e., an array) and the like. Of particular interest are nucleic acid arrays in which one or more of SEQ ID NOS:1-6010 is represented on the array. By array is meant an article of manufacture that has at least a substrate with at least two distinct nucleic acid targets on one of its surfaces, where the number of distinct nucleic acids can be considerably higher, typically being at least 10, usually at least 20, and often at least 25 distinct nucleic acid molecules. A variety of different array formats have been developed and are known to those of skill in the art. The arrays of the subject invention find use in a variety of applications, including gene expression analysis, drug screening, mutation analysis and the like, as disclosed in the above-listed exemplary patent documents.

**[00105]** In addition to the above nucleic acid libraries, analogous libraries of polypeptides are also provided, where the polypeptides of the library will represent at least a portion of the polypeptides encoded by a gene corresponding to one or more of SEQ ID NOS:1-6010.



### Utilities

[00106] The polynucleotides of the invention are useful in a variety of applications. Exemplary utilities of the polynucleotides of the invention are described below.

[00107] Construction of Larger Molecules: Recombinant DNAs and Nucleic Acid Multimers. In one embodiment of particular interest, the polynucleotides described herein as useful as the building blocks for larger molecules. In one example, the polynucleotide is a component of a larger cDNA molecule which in turn can be adapted for expression in a host cell (*e.g.*, a bacterial or eukaryotic (*e.g.*, yeast or mammalian) host cell). The cDNA can include, in addition to the polypeptide encoded by the starting material polynucleotide (*i.e.*, a polynucleotide described herein), an amino acid sequence that is heterologous to the polypeptide encoded by the polynucleotide described herein (*e.g.*, as in a sequence encoding a fusion protein). In some embodiments, the polynucleotides described herein is used as starting material polynucleotide for synthesizing all or a portion of the gene to which the described polynucleotide corresponds. For example, a DNA molecule encoding a full-length human polypeptide can be constructed using a polynucleotide described herein as starting material.

[00108] In another embodiment, the polynucleotides of the invention are used in nucleic acid multimers. Nucleic acid multimers can be linear or branched polymers of the same repeating single-stranded oligonucleotide unit or different single-stranded oligonucleotide units. Where the molecules are branched, the multimers are generally described as either "fork" or "comb" structures. The oligonucleotide units of the multimer may be composed of RNA, DNA, modified nucleotides or combinations thereof. At least one of the units has a sequence, length, and composition that permits it to bind specifically to a first single-stranded nucleotide sequence of interest, typically analyte or an oligonucleotide bound to the analyte. In order to achieve such specificity and stability, this unit will normally be 15 to 50 nt, preferably 15 to 30 nt, in length and have a GC content in the range of 40% to 60%. In addition to such unit(s), the multimer includes a multiplicity of units that are capable of hybridizing specifically and stably to a second single-stranded nucleotide of interest, typically a labeled oligonucleotide or another multimer. These units will also normally be 15 to 50 nt, preferably 15 to 30 nt, in length and have a GC content in the range of 40% to 60%. When a multimer is designed to be hybridized to another multimer, the first and second oligonucleotide units are heterogeneous (different). One or more of the polynucleotides described herein, or a portion of a polynucleotide described herein, can be used as a repeating unit of such nucleic acid multimers.

[00109] The total number of oligonucleotide units in the multimer will usually be in the range of 3 to 50, more usually 10 to 20. In multimers in which the unit that hybridizes to the nucleotide sequence of interest is different from the unit that hybridizes to the labeled oligonucleotide, the number ratio of

the latter to the former will usually be 2:1 to 30:1, more usually 5:1 to 20:1, and-preferably 10:1 to 15:1.

**[00110]** The oligonucleotide units of the multimer may be covalently linked directly to each other through phosphodiester bonds or through interposed linking agents such as nucleic acid, amino acid, carbohydrate or polyol bridges, or through other cross-linking agents that are capable of cross-linking nucleic acid or modified nucleic acid strands. The site(s) of linkage may be at the ends of the unit (in either normal 3',-5' orientation or randomly oriented) and/or at one or more internal nucleotides in the strand. In linear multimers the individual units are linked end-to-end to form a linear polymer. In one type of branched multimer three or more oligonucleotide units emanate from a point of origin to form a branched structure. The point of origin may be another oligonucleotide unit or a multifunctional molecule to which at least three units can be covalently bound. In another type, there is an oligonucleotide unit backbone with one or more pendant oligonucleotide units. These latter-type multimers are "fork-like", "comb-like" or combination "fork-" and "comb-like" in structure. The pendant units will normally depend from a modified nucleotide or other organic moiety having appropriate functional groups to which oligonucleotides may be conjugated or otherwise attached. The multimer may be totally linear, totally branched, or a combination of linear and branched portions. Preferably there will be at least two branch points in the multimer, more preferably at least 3, preferably 5 to 10. The multimer may include one or more segments of double-stranded sequences.

**[00111]** Multimeric nucleic acid molecules are useful in amplifying the signal that results from hybridization of one the first sequence of the multimeric molecule to a target sequence. The amplification is theoretically proportional to the number of iterations of the second segment.

**[00112]** Without being held to theory, forked structures of greater than about eight branches exhibited steric hindrance which inhibited binding of labeled probes to the multimer. On the other hand, comb structures exhibit little or no steric problems and are thus a preferred type of branched multimer. For a description of branched nucleic acid multimers of both the fork and comb types, as well as methods of use and synthesis, see, *e.g.*, U.S. Pat. Nos. 5,124,246 (fork-type structures); 5,710,264 (synthesis of comb structures); and 5,849,481.

**[00113]** Use of Polynucleotide Probes in Mapping, and in Tissue Profiling. Polynucleotide probes, generally comprising at least 12 contiguous nt of a polynucleotide as shown in the Sequence Listing, are used for a variety of purposes, such as chromosome mapping of the polynucleotide and detection of transcription levels. Additional disclosure about preferred regions of the disclosed polynucleotide sequences is found in the Examples. A probe that hybridizes specifically to a polynucleotide disclosed herein should provide a detection signal at least 5-, 10-, or 20-fold higher than the background hybridization provided with other unrelated sequences.

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[00114] Detection of Expression Levels. Nucleotide probes are used to detect expression of a gene corresponding to the provided polynucleotide. In Northern blots, mRNA is separated electrophoretically and contacted with a probe. A probe is detected as hybridizing to an mRNA species of a particular size. The amount of hybridization is quantitated to determine relative amounts of expression, for example under a particular condition. Probes are used for in situ hybridization to cells to detect expression. Probes can also be used in vivo for diagnostic detection of hybridizing sequences. Probes are typically labeled with a radioactive isotope. Other types of detectable labels can be used such as chromophores, fluors, and enzymes. Other examples of nucleotide hybridization assays are described in WO92/02526 and USPN 5,124,246.

[00115] Alternatively, the Polymerase Chain Reaction (PCR) is another means for detecting small amounts of target nucleic acids (see, e.g., Mullis et al., Meth. Enzymol. (1987) 155:335; USPN 4,683,195; and USPN 4,683,202). Two primer polynucleotides nucleotides that hybridize with the target nucleic acids are used to prime the reaction. The primers can be composed of sequence within or 3' and 5' to the polynucleotides of the Sequence Listing. Alternatively, if the primers are 3' and 5' to these polynucleotides, they need not hybridize to them or the complements. After amplification of the target with a thermostable polymerase, the amplified target nucleic acids can be detected by methods known in the art, e.g., Southern blot. mRNA or cDNA can also be detected by traditional blotting techniques (e.g., Southern blot, Northern blot, etc.) described in Sambrook et al., "Molecular Cloning: A Laboratory Manual" (New York, Cold Spring Harbor Laboratory, 1989) (e.g., without PCR amplification). In general, mRNA or cDNA generated from mRNA using a polymerase enzyme can be purified and separated using gel electrophoresis, and transferred to a solid support, such as nitrocellulose. The solid support is exposed to a labeled probe, washed to remove any unhybridized probe, and duplexes containing the labeled probe are detected.

[00116] Mapping. Polynucleotides of the present invention can be used to identify a chromosome on which the corresponding gene resides. Such mapping can be useful in identifying the function of the polynucleotide-related gene by its proximity to other genes with known function. Function can also be assigned to the polynucleotide-related gene when particular syndromes or diseases map to the same chromosome. For example, use of polynucleotide probes in identification and quantification of nucleic acid sequence aberrations is described in USPN 5,783,387. An exemplary mapping method is fluorescence in situ hybridization (FISH), which facilitates comparative genomic hybridization to allow total genome assessment of changes in relative copy number of DNA sequences (see, e.g., Valdes et al., Methods in Molecular Biology (1997) 68:1). Polynucleotides can also be mapped to particular chromosomes using, for example, radiation hybrids or chromosome-specific hybrid panels. See Leach et al., Advances in Genetics, (1995) 33:63-99; Walter et al., Nature Genetics (1994) 7:22; Walter and

Goodfellow, Trends in Genetics (1992) 9:352. Panels for radiation hybrid mapping are available from Research Genetics, Inc., Huntsville, Alabama, USA. Databases for markers using various panels are available via the world wide web at sites supported by the Stanford Human Genome Center (Stanford University) and the Whitehead Institute for Biomedical Research/MIT Center for Genome Research. The statistical program RHMAP can be used to construct a map based on the data from radiation hybridization with a measure of the relative likelihood of one order versus another. RHMAP is available via the world wide web at a site supported by the University of Michigan. In addition, commercial programs are available for identifying regions of chromosomes commonly associated with disease, such as cancer.

[00117] Tissue Typing or Profiling. Expression of specific mRNA corresponding to the provided polynucleotides can vary in different cell types and can be tissue-specific. This variation of mRNA levels in different cell types can be exploited with nucleic acid probe assays to determine tissue types. For example, PCR, branched DNA probe assays, or blotting techniques utilizing nucleic acid probes substantially identical or complementary to polynucleotides listed in the Sequence Listing can determine the presence or absence of the corresponding cDNA or mRNA.

[00118] Tissue typing can be used to identify the developmental organ or tissue source of a metastatic lesion by identifying the expression of a particular marker of that organ or tissue. If a polynucleotide is expressed only in a specific tissue type, and a metastatic lesion is found to express that polynucleotide, then the developmental source of the lesion has been identified. Expression of a particular polynucleotide can be assayed by detection of either the corresponding mRNA or the protein product. As would be readily apparent to any forensic scientist, the sequences disclosed herein are useful in differentiating human tissue from non-human tissue. In particular, these sequences are useful to differentiate human tissue from bird, reptile, and amphibian tissue, for example.

[00119] Use of Polymorphisms. A polynucleotide of the invention can be used in forensics, genetic analysis, mapping, and diagnostic applications where the corresponding region of a gene is polymorphic in the human population. Any means for detecting a polymorphism in a gene can be used, including, but not limited to electrophoresis of protein polymorphic variants, differential sensitivity to restriction enzyme cleavage, and hybridization to allele-specific probes.

[00120] Antibody Production. Expression products of a polynucleotide of the invention, as well as the corresponding mRNA, cDNA, or complete gene, can be prepared and used for raising antibodies for experimental, diagnostic, and therapeutic purposes. For polynucleotides to which a corresponding gene has not been assigned, this provides an additional method of identifying the corresponding gene. The polynucleotide or related cDNA is expressed as described above, and antibodies are prepared. These antibodies are specific to an epitope on the polypeptide encoded by the polynucleotide, and can

precipitate or bind to the corresponding native protein in a cell or tissue preparation or in a cell-free extract of an in vitro expression system.

**[00121]** Methods for production of antibodies that specifically bind a selected antigen are well known in the art. Immunogens for raising antibodies can be prepared by mixing a polypeptide encoded by a polynucleotide of the invention with an adjuvant, and/or by making fusion proteins with larger immunogenic proteins. Polypeptides can also be covalently linked to other larger immunogenic proteins, such as keyhole limpet hemocyanin. Immunogens are typically administered intradermally, subcutaneously, or intramuscularly to experimental animals such as rabbits, sheep, and mice, to generate antibodies. Monoclonal antibodies can be generated by isolating spleen cells and fusing myeloma cells to form hybridomas. Alternatively, the selected polynucleotide is administered directly, such as by intramuscular injection, and expressed in vivo. The expressed protein generates a variety of protein-specific immune responses, including production of antibodies, comparable to administration of the protein.

**[00122]** Preparations of polyclonal and monoclonal antibodies specific for polypeptides encoded by a selected polynucleotide are made using standard methods known in the art. The antibodies specifically bind to epitopes present in the polypeptides encoded by polynucleotides disclosed in the Sequence Listing. Typically, at least 6, 8, 10, or 12 contiguous amino acids are required to form an epitope. Epitopes that involve non-contiguous amino acids may require a longer polypeptide, e.g., at least 15, 25, or 50 amino acids. Antibodies that specifically bind to human polypeptides encoded by the provided polypeptides should provide a detection signal at least 5-, 10-, or 20-fold higher than a detection signal provided with other proteins when used in Western blots or other immunochemical assays. Preferably, antibodies that specifically bind polypeptides contemplated by the invention do not bind to other proteins in immunochemical assays at detectable levels and can immunoprecipitate the specific polypeptide from solution.

**[00123]** The invention also contemplates naturally occurring antibodies specific for a polypeptide of the invention. For example, serum antibodies to a polypeptide of the invention in a human population can be purified by methods well known in the art, e.g., by passing antiserum over a column to which the corresponding selected polypeptide or fusion protein is bound. The bound antibodies can then be eluted from the column, for example, using a buffer with a high salt concentration.

**[00124]** In addition to the antibodies discussed above, the invention also contemplates genetically engineered antibodies (e.g., chimeric antibodies, humanized antibodies, human antibodies produced by a transgenic animal (e.g., a transgenic mouse such as the Xenomous™), antibody derivatives (e.g., single chain antibodies, antibody fragments (e.g., Fab, etc.)), according to methods well known in the art.

### Polynucleotides or Arrays for Diagnostics.

**[00125]** Polynucleotide arrays provide a high throughput technique that can assay a large number of polynucleotides in a sample. This technology can be used as a diagnostic and as tool to test for differential expression expression, e.g., to determine function of an encoded protein. A variety of methods of producing arrays, as well as variations of these methods, are known in the art and contemplated for use in the invention. For example, arrays can be created by spotting polynucleotide probes onto a substrate (e.g., glass, nitrocellulose, etc.) in a two-dimensional matrix or array having bound probes. The probes can be bound to the substrate by either covalent bonds or by non-specific interactions, such as hydrophobic interactions. Samples of polynucleotides can be detectably labeled (e.g., using radioactive or fluorescent labels) and then hybridized to the probes. Double stranded polynucleotides, comprising the labeled sample polynucleotides bound to probe polynucleotides, can be detected once the unbound portion of the sample is washed away. Alternatively, the polynucleotides of the test sample can be immobilized on the array, and the probes detectably labeled. Techniques for constructing arrays and methods of using these arrays are described in, for example, Schena et al. (1996) Proc Natl Acad Sci U S A. 93(20):10614-9; Schena et al. (1995) Science 270(5235):467-70; Shalon et al. (1996) Genome Res. 6(7):639-45, USPN 5,807,522, EP 799 897; WO 97/29212; WO 97/27317; EP 785 280; WO 97/02357; USPN 5,593,839; USPN 5,578,832; EP 728 520; USPN 5,599,695; EP 721 016; USPN 5,556,752; WO 95/22058; and USPN 5,631,734.

**[00126]** Arrays can be used to, for example, examine differential expression of genes and can be used to determine gene function. For example, arrays can be used to detect differential expression of a gene corresponding to a polynucleotide of the invention, where expression is compared between a test cell and control cell (e.g., cancer cells and normal cells). For example, high expression of a particular message in a cancer cell, which is not observed in a corresponding normal cell, can indicate a cancer specific gene product. Exemplary uses of arrays are further described in, for example, Pappalarado et al., Sem. Radiation Oncol. (1998) 8:217; and Ramsay Nature Biotechnol. (1998) 16:40. Furthermore, many variations on methods of detection using arrays are well within the skill in the art and within the scope of the present invention. For example, rather than immobilizing the probe to a solid support, the test sample can be immobilized on a solid support which is then contacted with the probe.

### Differential Expression in Diagnosis

**[00127]** The polynucleotides of the invention can also be used to detect differences in expression levels between two cells, e.g., as a method to identify abnormal or diseased tissue in a human. For polynucleotides corresponding to profiles of protein families, the choice of tissue can be selected according to the putative biological function. In general, the expression of a gene corresponding to a specific polynucleotide is compared between a first tissue that is suspected of being diseased and a

second, normal tissue of the human. The tissue suspected of being abnormal or diseased can be derived from a different tissue type of the human, but preferably it is derived from the same tissue type; for example, an intestinal polyp or other abnormal growth should be compared with normal intestinal tissue. The normal tissue can be the same tissue as that of the test sample, or any normal tissue of the patient, especially those that express the polynucleotide-related gene of interest (e.g., brain, thymus, testis, heart, prostate, placenta, spleen, small intestine, skeletal muscle, pancreas, and the mucosal lining of the colon). A difference between the polynucleotide-related gene, mRNA, or protein in the two tissues which are compared, for example, in molecular weight, amino acid or nucleotide sequence, or relative abundance, indicates a change in the gene, or a gene which regulates it, in the tissue of the human that was suspected of being diseased. Examples of detection of differential expression and its use in diagnosis of cancer are described in USPNs 5,688,641 and 5,677,125.

**[00128]** A genetic predisposition to disease in a human can also be detected by comparing expression levels of an mRNA or protein corresponding to a polynucleotide of the invention in a fetal tissue with levels associated in normal fetal tissue. Fetal tissues that are used for this purpose include, but are not limited to, amniotic fluid, chorionic villi, blood, and the blastomere of an in vitro-fertilized embryo. The comparable normal polynucleotide-related gene is obtained from any tissue. The mRNA or protein is obtained from a normal tissue of a human in which the polynucleotide-related gene is expressed. Differences such as alterations in the nucleotide sequence or size of the same product of the fetal polynucleotide-related gene or mRNA, or alterations in the molecular weight, amino acid sequence, or relative abundance of fetal protein, can indicate a germline mutation in the polynucleotide-related gene of the fetus, which indicates a genetic predisposition to disease. In general, diagnostic, prognostic, and other methods of the invention based on differential expression involve detection of a level or amount of a gene product, particularly a differentially expressed gene product, in a test sample obtained from a patient suspected of having or being susceptible to a disease (e.g., breast cancer, lung cancer, colon cancer and/or metastatic forms thereof), and comparing the detected levels to those levels found in normal cells (e.g., cells substantially unaffected by cancer) and/or other control cells (e.g., to differentiate a cancerous cell from a cell affected by dysplasia). Furthermore, the severity of the disease can be assessed by comparing the detected levels of a differentially expressed gene product with those levels detected in samples representing the levels of differentially expressed gene product associated with varying degrees of severity of disease. It should be noted that use of the term "diagnostic" herein is not necessarily meant to exclude "prognostic" or "prognosis," but rather is used as a matter of convenience.

**[00129]** The term "differentially expressed gene" is generally intended to encompass a polynucleotide that can, for example, include an open reading frame encoding a gene product (e.g., a

polypeptide), and/or introns of such genes and adjacent 5' and 3' non-coding nucleotide sequences involved in the regulation of expression, up to about 20 kb beyond the coding region, but possibly further in either direction. The gene can be introduced into an appropriate vector for extrachromosomal maintenance or for integration into a host genome. In general, a difference in expression level associated with a decrease in expression level of at least about 25%, usually at least about 50% to 75%, more usually at least about 90% or more is indicative of a differentially expressed gene of interest, i.e., a gene that is underexpressed or down-regulated in the test sample relative to a control sample. Furthermore, a difference in expression level associated with an increase in expression of at least about 25%, usually at least about 50% to 75%, more usually at least about 90% and can be at least about 1½-fold, usually at least about 2-fold to about 10-fold, and can be about 100-fold to about 1,000-fold increase relative to a control sample is indicative of a differentially expressed gene of interest, i.e., an overexpressed or up-regulated gene.

**[00130]** "Differentially expressed polynucleotide" as used herein means a nucleic acid molecule (RNA or DNA) comprising a sequence that represents a differentially expressed gene, e.g., the differentially expressed polynucleotide comprises a sequence (e.g., an open reading frame encoding a gene product) that uniquely identifies a differentially expressed gene so that detection of the differentially expressed polynucleotide in a sample is correlated with the presence of a differentially expressed gene in a sample. "Differentially expressed polynucleotide" is also meant to encompass fragments of the disclosed polynucleotides, e.g., fragments retaining biological activity, as well as nucleic acids homologous, substantially similar, or substantially identical (e.g., having about 90% sequence identity) to the disclosed polynucleotides.

**[00131]** Methods of the subject invention useful in diagnosis or prognosis typically involve comparison of the abundance of a selected differentially expressed gene product in a sample of interest with that of a control to determine any relative differences in the expression of the gene product, where the difference can be measured qualitatively and/or quantitatively. Quantitation can be accomplished, for example, by comparing the level of expression product detected in the sample with the amounts of product present in a standard curve. A comparison can be made visually; by using a technique such as densitometry, with or without computerized assistance; by preparing a representative library of cDNA clones of mRNA isolated from a test sample, sequencing the clones in the library to determine that number of cDNA clones corresponding to the same gene product, and analyzing the number of clones corresponding to that same gene product relative to the number of clones of the same gene product in a control sample; or by using an array to detect relative levels of hybridization to a selected sequence or set of sequences, and comparing the hybridization pattern to that of a control. The differences in expression are then correlated with the presence or absence of an abnormal expression pattern. A



variety of different methods for determining the nucleic acid abundance in a sample are known to those of skill in the art (see, e.g., WO 97/27317).

**[00132]** In general, diagnostic assays of the invention involve detection of a gene product of a polynucleotide sequence (e.g., mRNA or polypeptide) that corresponds to a sequence of SEQ ID NOS:1-6010. The patient from whom the sample is obtained can be apparently healthy, susceptible to disease (e.g., as determined by family history or exposure to certain environmental factors), or can already be identified as having a condition in which altered expression of a gene product of the invention is implicated.

**[00133]** Diagnosis can be determined based on detected gene product expression levels of a gene product encoded by at least one, preferably at least two or more, at least 3 or more, or at least 4 or more of the polynucleotides having a sequence set forth in SEQ ID NOS:1-6010, and can involve detection of expression of genes corresponding to all of SEQ ID NOS:1-6010 and/or additional sequences that can serve as additional diagnostic markers and/or reference sequences. Where the diagnostic method is designed to detect the presence or susceptibility of a patient to cancer, the assay preferably involves detection of a gene product encoded by a gene corresponding to a polynucleotide that is differentially expressed in cancer. Examples of such differentially expressed polynucleotides are described in the Examples below. Given the provided polynucleotides and information regarding their relative expression levels provided herein, assays using such polynucleotides and detection of their expression levels in diagnosis and prognosis will be readily apparent to the ordinarily skilled artisan.

**[00134]** Any of a variety of detectable labels can be used in connection with the various embodiments of the diagnostic methods of the invention. Suitable detectable labels include fluorochromes, (e.g. fluorescein isothiocyanate (FITC), rhodamine, Texas Red, phycoerythrin, allophycocyanin, 6-carboxyfluorescein (6-FAM), 2',7'-dimethoxy-4',5'-dichloro-6-carboxyfluorescein, 6-carboxy-X-rhodamine (ROX), 6-carboxy-2',4',7',4,7-hexachlorofluorescein (HEX), 5-carboxyfluorescein (5-FAM) or N,N,N',N'-tetramethyl-6-carboxyrhodamine (TAMRA)), radioactive labels, (e.g. 32P, 35S, 3H, etc.), and the like. The detectable label can involve a two stage systems (e.g., biotin-avidin, hapten-anti-hapten antibody, etc.).

**[00135]** Reagents specific for the polynucleotides and polypeptides of the invention, such as antibodies and nucleotide probes, can be supplied in a kit for detecting the presence of an expression product in a biological sample. The kit can also contain buffers or labeling components, as well as instructions for using the reagents to detect and quantify expression products in the biological sample. Exemplary embodiments of the diagnostic methods of the invention are described below in more detail.

**[00136]** Polypeptide detection in diagnosis. In one embodiment, the test sample is assayed for the level of a differentially expressed polypeptide. Diagnosis can be accomplished using any of a number

of methods to determine the absence or presence or altered amounts of the differentially expressed polypeptide in the test sample. For example, detection can utilize staining of cells or histological sections with labeled antibodies, performed in accordance with conventional methods. Cells can be permeabilized to stain cytoplasmic molecules. In general, antibodies that specifically bind a differentially expressed polypeptide of the invention are added to a sample, and incubated for a period of time sufficient to allow binding to the epitope, usually at least about 10 minutes. The antibody can be detectably labeled for direct detection (e.g., using radioisotopes, enzymes, fluorescers, chemilumescers, and the like), or can be used in conjunction with a second stage antibody or reagent to detect binding (e.g., biotin with horseradish peroxidase-conjugated avidin, a secondary antibody conjugated to a fluorescent compound, e.g. fluorescein, rhodamine, Texas red, etc.). The absence or presence of antibody binding can be determined by various methods, including flow cytometry of dissociated cells, microscopy, radiography, scintillation counting, etc. Any suitable alternative methods of qualitative or quantitative detection of levels or amounts of differentially expressed polypeptide can be used, for example, ELISA, western blot, immunoprecipitation, radioimmunoassay, etc.

**[00137]** mRNA detection. The diagnostic methods of the invention can also or alternatively involve detection of mRNA encoded by a gene corresponding to a differentially expressed polynucleotide of the invention. Any suitable qualitative or quantitative methods known in the art for detecting specific mRNAs can be used. mRNA can be detected by, for example, in situ hybridization in tissue sections, by reverse transcriptase-PCR, or in Northern blots containing poly A+ mRNA. One of skill in the art can readily use these methods to determine differences in the size or amount of mRNA transcripts between two samples. mRNA expression levels in a sample can also be determined by generation of a library of expressed sequence tags (ESTs) from the sample, where the EST library is representative of sequences present in the sample (Adams, et al., (1991) Science 252:1651).

Enumeration of the relative representation of ESTs within the library can be used to approximate the relative representation of the gene transcript within the starting sample. The results of EST analysis of a test sample can then be compared to EST analysis of a reference sample to determine the relative expression levels of a selected polynucleotide, particularly a polynucleotide corresponding to one or more of the differentially expressed genes described herein. Alternatively, gene expression in a test sample can be performed using serial analysis of gene expression (SAGE) methodology (e.g., Velculescu et al., Science (1995) 270:484) or differential display (DD) methodology (see, e.g., USPN 5,776,683 and USPN 5,807,680).

**[00138]** Alternatively, gene expression can be analyzed using hybridization analysis. Oligonucleotides or cDNA can be used to selectively identify or capture DNA or RNA of specific

sequence composition, and the amount of RNA or cDNA hybridized to a known capture sequence determined qualitatively or quantitatively, to provide information about the relative representation of a particular message within the pool of cellular messages in a sample. Hybridization analysis can be designed to allow for concurrent screening of the relative expression of hundreds to thousands of genes by using, for example, array-based technologies having high density formats, including filters, microscope slides, or microchips, or solution-based technologies that use spectroscopic analysis (e.g., mass spectrometry). One exemplary use of arrays in the diagnostic methods of the invention is described below in more detail.

**[00139]** Use of a single gene in diagnostic applications. The diagnostic methods of the invention can focus on the expression of a single differentially expressed gene. For example, the diagnostic method can involve detecting a differentially expressed gene, or a polymorphism of such a gene (e.g., a polymorphism in a coding region or control region), that is associated with disease. Disease-associated polymorphisms can include deletion or truncation of the gene, mutations that alter expression level and/or affect activity of the encoded protein, etc.

**[00140]** A number of methods are available for analyzing nucleic acids for the presence of a specific sequence, e.g. a disease associated polymorphism. Where large amounts of DNA are available, genomic DNA is used directly. Alternatively, the region of interest is cloned into a suitable vector and grown in sufficient quantity for analysis. Cells that express a differentially expressed gene can be used as a source of mRNA, which can be assayed directly or reverse transcribed into cDNA for analysis. The nucleic acid can be amplified by conventional techniques, such as the polymerase chain reaction (PCR), to provide sufficient amounts for analysis, and a detectable label can be included in the amplification reaction (e.g., using a detectably labeled primer or detectably labeled oligonucleotides) to facilitate detection. Alternatively, various methods are also known in the art that utilize oligonucleotide ligation as a means of detecting polymorphisms, see, e.g., Riley et al., Nucl. Acids Res. (1990) 18:2887; and Delahunty et al., Am. J. Hum. Genet. (1996) 58:1239.

**[00141]** The amplified or cloned sample nucleic acid can be analyzed by one of a number of methods known in the art. The nucleic acid can be sequenced by dideoxy or other methods, and the sequence of bases compared to a selected sequence, e.g., to a wild-type sequence. Hybridization with the polymorphic or variant sequence can also be used to determine its presence in a sample (e.g., by Southern blot, dot blot, etc.). The hybridization pattern of a polymorphic or variant sequence and a control sequence to an array of oligonucleotide probes immobilized on a solid support, as described in US 5,445,934, or in WO 95/35505, can also be used as a means of identifying polymorphic or variant sequences associated with disease. Single strand conformational polymorphism (SSCP) analysis, denaturing gradient gel electrophoresis (DGGE), and heteroduplex analysis in gel matrices are used to

detect conformational changes created by DNA sequence variation as alterations in electrophoretic mobility. Alternatively, where a polymorphism creates or destroys a recognition site for a restriction endonuclease, the sample is digested with that endonuclease, and the products size fractionated to determine whether the fragment was digested. Fractionation is performed by gel or capillary electrophoresis, particularly acrylamide or agarose gels.

**[00142]** Screening for mutations in a gene can be based on the functional or antigenic characteristics of the protein. Protein truncation assays are useful in detecting deletions that can affect the biological activity of the protein. Various immunoassays designed to detect polymorphisms in proteins can be used in screening. Where many diverse genetic mutations lead to a particular disease phenotype, functional protein assays have proven to be effective screening tools. The activity of the encoded protein can be determined by comparison with the wild-type protein.

Diagnosis, Prognosis, Assessment of Therapy (Therapeutics), and Management of Cancer

**[00143]** The polynucleotides of the invention, as well as their gene products, are of particular interest as genetic or biochemical markers (e.g., in blood or tissues) that will detect the earliest changes along the carcinogenesis pathway and/or to monitor the efficacy of various therapies and preventive interventions. For example, the level of expression of certain polynucleotides can be indicative of a poorer prognosis, and therefore warrant more aggressive chemo- or radio-therapy for a patient or vice versa. The correlation of novel surrogate tumor specific features with response to treatment and outcome in patients can define prognostic indicators that allow the design of tailored therapy based on the molecular profile of the tumor. These therapies include antibody targeting, antagonists (e.g., small molecules), and gene therapy. Determining expression of certain polynucleotides and comparison of a patient's profile with known expression in normal tissue and variants of the disease allows a determination of the best possible treatment for a patient, both in terms of specificity of treatment and in terms of comfort level of the patient. Surrogate tumor markers, such as polynucleotide expression, can also be used to better classify, and thus diagnose and treat, different forms and disease states of cancer. Two classifications widely used in oncology that can benefit from identification of the expression levels of the genes corresponding to the polynucleotides of the invention are staging of the cancerous disorder, and grading the nature of the cancerous tissue.

**[00144]** The polynucleotides that correspond to differentially expressed genes, as well as their encoded gene products, can be useful to monitor patients having or susceptible to cancer to detect potentially malignant events at a molecular level before they are detectable at a gross morphological level. In addition, the polynucleotides of the invention, as well as the genes corresponding to such polynucleotides, can be useful as therapeutics, e.g., to assess the effectiveness of therapy by using the

polynucleotides or their encoded gene products, to assess, for example, tumor burden in the patient before, during, and after therapy.

[00145] Furthermore, a polynucleotide identified as corresponding to a gene that is differentially expressed in, and thus is important for, one type of cancer can also have implications for development or risk of development of other types of cancer, e.g., where a polynucleotide represents a gene differentially expressed across various cancer types. Thus, for example, expression of a polynucleotide corresponding to a gene that has clinical implications for metastatic colon cancer can also have clinical implications for stomach cancer or endometrial cancer.

[00146] Staging. Staging is a process used by physicians to describe how advanced the cancerous state is in a patient. Staging assists the physician in determining a prognosis, planning treatment and evaluating the results of such treatment. Staging systems vary with the types of cancer, but generally involve the following "TNM" system: the type of tumor, indicated by T; whether the cancer has metastasized to nearby lymph nodes, indicated by N; and whether the cancer has metastasized to more distant parts of the body, indicated by M. Generally, if a cancer is only detectable in the area of the primary lesion without having spread to any lymph nodes it is called Stage I. If it has spread only to the closest lymph nodes, it is called Stage II. In Stage III, the cancer has generally spread to the lymph nodes in near proximity to the site of the primary lesion. Cancers that have spread to a distant part of the body, such as the liver, bone, brain or other site, are Stage IV, the most advanced stage.

[00147] The polynucleotides of the invention can facilitate fine-tuning of the staging process by identifying markers for the aggressivity of a cancer, e.g., the metastatic potential, as well as the presence in different areas of the body. Thus, a Stage II cancer with a polynucleotide signifying a high metastatic potential cancer can be used to change a borderline Stage II tumor to a Stage III tumor, justifying more aggressive therapy. Conversely, the presence of a polynucleotide signifying a lower metastatic potential allows more conservative staging of a tumor.

[00148] Grading of cancers. Grade is a term used to describe how closely a tumor resembles normal tissue of its same type. The microscopic appearance of a tumor is used to identify tumor grade based on parameters such as cell morphology, cellular organization, and other markers of differentiation. As a general rule, the grade of a tumor corresponds to its rate of growth or aggressiveness, with undifferentiated or high-grade tumors being more aggressive than well-differentiated or low-grade tumors. The following guidelines are generally used for grading tumors: 1) GX Grade cannot be assessed; 2) G1 Well differentiated; 3) G2 Moderately well differentiated; 4) G3 Poorly differentiated; 5) G4 Undifferentiated. The polynucleotides of the invention can be especially valuable in determining the grade of the tumor, as they not only can aid in determining the

differentiation status of the cells of a tumor, they can also identify factors other than differentiation that are valuable in determining the aggressiveness of a tumor, such as metastatic potential.

**[00149]** Detection of colon cancer. The polynucleotides corresponding to genes that exhibit the appropriate expression pattern can be used to detect colon cancer in a subject. Colorectal cancer is one of the most common neoplasms in humans and perhaps the most frequent form of hereditary neoplasia. Prevention and early detection are key factors in controlling and curing colorectal cancer. Colorectal cancer begins as polyps, which are small, benign growths of cells that form on the inner lining of the colon. Over a period of several years, some of these polyps accumulate additional mutations and become cancerous. Multiple familial colorectal cancer disorders have been identified, which are summarized as follows: 1) Familial adenomatous polyposis (FAP); 2) Gardner's syndrome; 3) Hereditary nonpolyposis colon cancer (HNPCC); and 4) Familial colorectal cancer in Ashkenazi Jews. The expression of appropriate polynucleotides of the invention can be used in the diagnosis, prognosis and management of colorectal cancer. Detection of colon cancer can be determined using expression levels of any of these sequences alone or in combination with the levels of expression. Determination of the aggressive nature and/or the metastatic potential of a colon cancer can be determined by comparing levels of one or more polynucleotides of the invention and comparing total levels of another sequence known to vary in cancerous tissue, e.g., expression of p53, DCC ras, or FAP (see, e.g., Fearon ER, et al., Cell (1990) 61(5):759; Hamilton SR et al., Cancer (1993) 72:957; Bodmer W, et al., Nat Genet. (1994) 4(3):217; Fearon ER, Ann N Y Acad Sci. (1995) 768:101). For example, development of colon cancer can be detected by examining the ratio of any of the polynucleotides of the invention to the levels of oncogenes (e.g., ras) or tumor suppressor genes (e.g., FAP or p53). Thus, expression of specific marker polynucleotides can be used to discriminate between normal and cancerous colon tissue, to discriminate between colon cancers with different cells of origin, to discriminate between colon cancers with different potential metastatic rates, etc. For a review of markers of cancer, see, e.g., Hanahan et al. (2000) Cell 100:57-70.

**[00150]** Detection of prostate cancer. The polynucleotides and their corresponding genes and gene products exhibiting the appropriate differential expression pattern can be used to detect prostate cancer in a subject. Over 95% of primary prostate cancers are adenocarcinomas. Signs and symptoms may include: frequent urination, especially at night; inability to urinate; trouble starting or holding back urination; a weak or interrupted urine flow; and frequent pain or stiffness in the lower back, hips or upper thighs.

**[00151]** Many of the signs and symptoms of prostate cancer can be caused by a variety of other non-cancerous conditions. For example, one common cause of many of these signs and symptoms is a condition called benign prostatic hypertrophy, or BPH. In BPH, the prostate gets bigger and may block

the flow of urine or interfere with sexual function. The methods and compositions of the invention can be used to distinguish between prostate cancer and such non-cancerous conditions. The methods of the invention can be used in conjunction with conventional methods of diagnosis, e.g., digital rectal exam and/or detection of the level of prostate specific antigen (PSA), a substance produced and secreted by the prostate.

**[00152]** Detection of breast cancer. The majority of breast cancers are adenocarcinoma subtypes, which can be summarized as follows: 1) ductal carcinoma in situ (DCIS), including comedocarcinoma; 2) infiltrating (or invasive) ductal carcinoma (IDC); 3) lobular carcinoma in situ (LCIS); 4) infiltrating (or invasive) lobular carcinoma (ILC); 5) inflammatory breast cancer; 6) medullary carcinoma; 7) mucinous carcinoma; 8) Paget's disease of the nipple; 9) Phyllodes tumor; and 10) tubular carcinoma;

**[00153]** The expression of polynucleotides of the invention can be used in the diagnosis and management of breast cancer, as well as to distinguish between types of breast cancer. Detection of breast cancer can be determined using expression levels of any of the appropriate polynucleotides of the invention, either alone or in combination. Determination of the aggressive nature and/or the metastatic potential of a breast cancer can also be determined by comparing levels of one or more polynucleotides of the invention and comparing levels of another sequence known to vary in cancerous tissue, e.g., ER expression. In addition, development of breast cancer can be detected by examining the ratio of expression of a differentially expressed polynucleotide to the levels of steroid hormones (e.g., testosterone or estrogen) or to other hormones (e.g., growth hormone, insulin). Thus, expression of specific marker polynucleotides can be used to discriminate between normal and cancerous breast tissue, to discriminate between breast cancers with different cells of origin, to discriminate between breast cancers with different potential metastatic rates, etc.

**[00154]** Detection of lung cancer. The polynucleotides of the invention can be used to detect lung cancer in a subject. Although there are more than a dozen different kinds of lung cancer, the two main types of lung cancer are small cell and nonsmall cell, which encompass about 90% of all lung cancer cases. Small cell carcinoma (also called oat cell carcinoma) usually starts in one of the larger bronchial tubes, grows fairly rapidly, and is likely to be large by the time of diagnosis. Nonsmall cell lung cancer (NSCLC) is made up of three general subtypes of lung cancer. Epidermoid carcinoma (also called squamous cell carcinoma) usually starts in one of the larger bronchial tubes and grows relatively slowly. The size of these tumors can range from very small to quite large. Adenocarcinoma starts growing near the outside surface of the lung and can vary in both size and growth rate. Some slowly growing adenocarcinomas are described as alveolar cell cancer. Large cell carcinoma starts near the surface of the lung, grows rapidly, and the growth is usually fairly large when diagnosed. Other less

common forms of lung cancer are carcinoid, cylindroma, mucoepidermoid, and malignant mesothelioma.

**[00155]** The polynucleotides of the invention, e.g., polynucleotides differentially expressed in normal cells versus cancerous lung cells (e.g., tumor cells of high or low metastatic potential) or between types of cancerous lung cells (e.g., high metastatic versus low metastatic), can be used to distinguish types of lung cancer as well as identifying traits specific to a certain patient's cancer and selecting an appropriate therapy. For example, if the patient's biopsy expresses a polynucleotide that is associated with a low metastatic potential, it may justify leaving a larger portion of the patient's lung in surgery to remove the lesion. Alternatively, a smaller lesion with expression of a polynucleotide that is associated with high metastatic potential may justify a more radical removal of lung tissue and/or the surrounding lymph nodes, even if no metastasis can be identified through pathological examination.

Use of Polynucleotides to Screen for Peptide Analogs and Antagonists

**[00156]** Polypeptides encoded by the instant polynucleotides and corresponding full-length genes can be used to screen peptide libraries to identify binding partners, such as receptors, from among the encoded polypeptides. Peptide libraries can be synthesized according to methods known in the art (see, e.g., USPN 5,010,175 , and WO 91/17823). Agonists or antagonists of the polypeptides of the invention can be screened using any available method known in the art, such as signal transduction, antibody binding, receptor binding, mitogenic assays, chemotaxis assays, etc. The assay conditions ideally should resemble the conditions under which the native activity is exhibited in vivo, that is, under physiologic pH, temperature, and ionic strength. Suitable agonists or antagonists will exhibit strong inhibition or enhancement of the native activity at concentrations that do not cause toxic side effects in the subject. Agonists or antagonists that compete for binding to the native polypeptide can require concentrations equal to or greater than the native concentration, while inhibitors capable of binding irreversibly to the polypeptide can be added in concentrations on the order of the native concentration.

**[00157]** Such screening and experimentation can lead to identification of a novel polypeptide binding partner, such as a receptor, encoded by a gene or a cDNA corresponding to a polynucleotide of the invention, and at least one peptide agonist or antagonist of the novel binding partner. Such agonists and antagonists can be used to modulate, enhance, or inhibit receptor function in cells to which the receptor is native, or in cells that possess the receptor as a result of genetic engineering. Further, if the novel receptor shares biologically important characteristics with a known receptor, information about agonist/antagonist binding can facilitate development of improved agonists/antagonists of the known receptor.



### Pharmaceutical Compositions and Uses

**[00158]** Pharmaceutical compositions can comprise polypeptides, receptors that specifically bind a polypeptide produced by a differentially expressed gene (e.g., antibodies, or polynucleotides (including antisense nucleotides and ribozymes) of the claimed invention in a therapeutically effective amount. The compositions can be used to treat primary tumors as well as metastases of primary tumors. In addition, the pharmaceutical compositions can be used in conjunction with conventional methods of cancer treatment, e.g., to sensitize tumors to radiation or conventional chemotherapy.

**[00159]** Where the pharmaceutical composition comprises a receptor (such as an antibody) that specifically binds to a gene product encoded by a differentially expressed gene, the receptor can be coupled to a drug for delivery to a treatment site or coupled to a detectable label to facilitate imaging of a site comprising colon cancer cells. Methods for coupling antibodies to drugs and detectable labels are well known in the art, as are methods for imaging using detectable labels.

**[00160]** The term "therapeutically effective amount" as used herein refers to an amount of a therapeutic agent to treat, ameliorate, or prevent a desired disease or condition, or to exhibit a detectable therapeutic or preventative effect. The effect can be detected by, for example, chemical markers or antigen levels. Therapeutic effects also include reduction in physical symptoms, such as decreased body temperature. The precise effective amount for a subject will depend upon the subject's size and health, the nature and extent of the condition, and the therapeutics or combination of therapeutics selected for administration. Thus, it is not useful to specify an exact effective amount in advance. However, the effective amount for a given situation is determined by routine experimentation and is within the judgment of the clinician. For purposes of the present invention, an effective dose will generally be from about 0.01 mg/kg to 50 mg/kg or 0.05 mg/kg to about 10 mg/kg of the DNA constructs in the individual to which it is administered.

**[00161]** A pharmaceutical composition can also contain a pharmaceutically acceptable carrier. The term "pharmaceutically acceptable carrier" refers to a carrier for administration of a therapeutic agent, such as antibodies or a polypeptide, genes, and other therapeutic agents. The term refers to any pharmaceutical carrier that does not itself induce the production of antibodies harmful to the individual receiving the composition, and which can be administered without undue toxicity. Suitable carriers can be large, slowly metabolized macromolecules such as proteins, polysaccharides, polylactic acids, polyglycolic acids, polymeric amino acids, amino acid copolymers, and inactive virus particles. Such carriers are well known to those of ordinary skill in the art. Pharmaceutically acceptable carriers in therapeutic compositions can include liquids such as water, saline, glycerol and ethanol. Auxiliary substances, such as wetting or emulsifying agents, pH buffering substances, and the like, can also be present in such vehicles. Typically, the therapeutic compositions are prepared as injectables, either as

liquid solutions or suspensions; solid forms suitable for solution in, or suspension in, liquid vehicles prior to injection can also be prepared. Liposomes are included within the definition of a pharmaceutically acceptable carrier. Pharmaceutically acceptable salts can also be present in the pharmaceutical composition, e.g., mineral acid salts such as hydrochlorides, hydrobromides, phosphates, sulfates, and the like; and the salts of organic acids such as acetates, propionates, malonates, benzoates, and the like. A thorough discussion of pharmaceutically acceptable excipients is available in Remington's Pharmaceutical Sciences (Mack Pub. Co., N.J. 1991).

#### Delivery Methods

**[00162]** Once formulated, the compositions of the invention can be (1) administered directly to the subject (e.g., as polynucleotide or polypeptides); or (2) delivered ex vivo, to cells derived from the subject (e.g., as in ex vivo gene therapy). Direct delivery of the compositions will generally be accomplished by parenteral injection, e.g., subcutaneously, intraperitoneally, intravenously or intramuscularly, intratumorally or to the interstitial space of a tissue. Other modes of administration include oral and pulmonary administration, suppositories, and transdermal applications, needles, and gene guns or hyposprays. Dosage treatment can be a single dose schedule or a multiple dose schedule.

**[00163]** Methods for the ex vivo delivery and reimplantation of transformed cells into a subject are known in the art and described in, e.g., WO 93/14778. Examples of cells useful in ex vivo applications include, for example, stem cells, particularly hematopoietic, lymph cells, macrophages, dendritic cells, or tumor cells. Generally, delivery of nucleic acids for both ex vivo and in vitro applications can be accomplished by, for example, dextran-mediated transfection, calcium phosphate precipitation, polybrene mediated transfection, protoplast fusion, electroporation, encapsulation of the polynucleotide(s) in liposomes, and direct microinjection of the DNA into nuclei, all well known in the art.

**[00164]** Once differential expression of a gene corresponding to a polynucleotide of the invention has been found to correlate with a proliferative disorder, such as neoplasia, dysplasia, and hyperplasia, the disorder can be amenable to treatment by administration of a therapeutic agent based on the provided polynucleotide, corresponding polypeptide or other corresponding molecule (e.g., antisense, ribozyme, etc.). In other embodiments, the disorder can be amenable to treatment by administration of a small molecule drug that, for example, serves as an inhibitor (antagonist) of the function of the encoded gene product of a gene having increased expression in cancerous cells relative to normal cells or as an agonist for gene products that are decreased in expression in cancerous cells (e.g., to promote the activity of gene products that act as tumor suppressors).

**[00165]** The dose and the means of administration of the inventive pharmaceutical compositions are determined based on the specific qualities of the therapeutic composition, the condition, age, and

weight of the patient, the progression of the disease, and other relevant factors. For example, administration of polynucleotide therapeutic composition agents of the invention includes local or systemic administration, including injection, oral administration, particle gun or catheterized administration, and topical administration. Preferably, the therapeutic polynucleotide composition contains an expression construct comprising a promoter operably linked to a polynucleotide of at least 12, 22, 25, 30, or 35 contiguous nt of the polynucleotide of the invention. Various methods can be used to administer the therapeutic composition directly to a specific site in the body. For example, a small metastatic lesion is located and the therapeutic composition injected several times in several different locations within the body of tumor. Alternatively, arteries that serve a tumor are identified, and the therapeutic composition injected into such an artery, in order to deliver the composition directly into the tumor. A tumor that has a necrotic center is aspirated and the composition injected directly into the now empty center of the tumor. The antisense composition is directly administered to the surface of the tumor, for example, by topical application of the composition. X-ray imaging is used to assist in certain of the above delivery methods.

**[00166]** Targeted delivery of therapeutic compositions containing an antisense polynucleotide, subgenomic polynucleotides, or antibodies to specific tissues can also be used. Receptor-mediated DNA delivery techniques are described in, for example, Findeis et al., Trends Biotechnol. (1993) 11:202; Chiou et al., Gene Therapeutics: Methods And Applications Of Direct Gene Transfer (J.A. Wolff, ed.) (1994); Wu et al., J. Biol. Chem. (1988) 263:621; Wu et al., J. Biol. Chem. (1994) 269:542; Zenke et al., Proc. Natl. Acad. Sci. (USA) (1990) 87:3655; Wu et al., J. Biol. Chem. (1991) 266:338. Therapeutic compositions containing a polynucleotide are administered in a range of about 100 ng to about 200 mg of DNA for local administration in a gene therapy protocol. Concentration ranges of about 500 ng to about 50 mg, about 1 micrograms to about 2 mg, about 5 micrograms to about 500 micrograms, and about 20 micrograms to about 100 micrograms of DNA can also be used during a gene therapy protocol. Factors such as method of action (e.g., for enhancing or inhibiting levels of the encoded gene product) and efficacy of transformation and expression are considerations which will affect the dosage required for ultimate efficacy of the antisense subgenomic polynucleotides. Where greater expression is desired over a larger area of tissue, larger amounts of antisense subgenomic polynucleotides or the same amounts readministered in a successive protocol of administrations, or several administrations to different adjacent or close tissue portions of, for example, a tumor site, may be required to effect a positive therapeutic outcome. In all cases, routine experimentation in clinical trials will determine specific ranges for optimal therapeutic effect. For polynucleotide related genes encoding polypeptides or proteins with anti-inflammatory activity, suitable use, doses, and administration are described in USPN 5,654,173.

**[00167]** The therapeutic polynucleotides and polypeptides of the present invention can be delivered using gene delivery vehicles. The gene delivery vehicle can be of viral or non-viral origin (see generally, Jolly, *Cancer Gene Therapy* (1994) 1:51; Kimura, *Human Gene Therapy* (1994) 5:845; Connelly, *Human Gene Therapy* (1995) 1:185; and Kaplitt, *Nature Genetics* (1994) 6:148).

Expression of such coding sequences can be induced using endogenous mammalian or heterologous promoters. Expression of the coding sequence can be either constitutive or regulated.

**[00168]** Viral-based vectors for delivery of a desired polynucleotide and expression in a desired cell are well known in the art. Exemplary viral-based vehicles include, but are not limited to, recombinant retroviruses (see, e.g., WO 90/07936; WO 94/03622; WO 93/25698; WO 93/25234; USPN 5, 219,740; WO 93/11230; WO 93/10218; USPN 4,777,127; GB Patent No. 2,200,651; EP 0 345 242; and WO 91/02805), alphavirus-based vectors (e.g., Sindbis virus vectors, Semliki forest virus (ATCC VR-67; ATCC VR-1247), Ross River virus (ATCC VR-373; ATCC VR-1246) and Venezuelan equine encephalitis virus (ATCC VR-923; ATCC VR-1250; ATCC VR 1249; ATCC VR-532), and adeno-associated virus (AAV) vectors (see, e.g., WO 94/12649, WO 93/03769; WO 93/19191; WO 94/28938; WO 95/11984 and WO 95/00655). Administration of DNA linked to killed adenovirus, as described in Curiel, *Hum. Gene Ther.* (1992) 3:147, can also be employed.

**[00169]** Non-viral delivery vehicles and methods can also be employed, including, but not limited to, polycationic condensed DNA linked or unlinked to killed adenovirus alone (see, e.g., Curiel, *Hum. Gene Ther.* (1992) 3:147); ligand-linked DNA (see, e.g., Wu, *J. Biol. Chem.* (1989) 264:16985); eukaryotic cell delivery vehicles cells (see, e.g., USPN 5,814,482; WO 95/07994; WO 96/17072; WO 95/30763; and WO 97/42338) and nucleic charge neutralization or fusion with cell membranes. Naked DNA can also be employed. Exemplary naked DNA introduction methods are described in WO 90/11092 and USPN 5,580,859. Liposomes that can act as gene delivery vehicles are described in USPN 5,422,120; WO 95/13796; WO 94/23697; WO 91/14445; and EP 0524968. Additional approaches are described in Philip, *Mol. Cell Biol.* (1994) 14:2411, and in Woffendin, *Proc. Natl. Acad. Sci.* (1994) 91:1581

**[00170]** Further non-viral delivery suitable for use includes mechanical delivery systems such as the approach described in Woffendin et al., *Proc. Natl. Acad. Sci. USA* (1994) 91(24):11581. Moreover, the coding sequence and the product of expression of such can be delivered through deposition of photopolymerized hydrogel materials or use of ionizing radiation (see, e.g., USPN 5,206,152 and WO 92/11033). Other conventional methods for gene delivery that can be used for delivery of the coding sequence include, for example, use of hand-held gene transfer particle gun (see, e.g., USPN 5,149,655); use of ionizing radiation for activating transferred gene (see, e.g., USPN 5,206,152 and WO 92/11033).

[00171] The present invention will now be illustrated by reference to the following examples which set forth particularly advantageous embodiments. However, it should be noted that these embodiments are illustrative and are not to be construed as restricting the invention in any way.

### EXAMPLES

[00172] The following examples are put forth so as to provide those of ordinary skill in the art with a complete disclosure and description of how to make and use the present invention, and are not intended to limit the scope of what the inventors regard as their invention nor are they intended to represent that the experiments below are all or the only experiments performed. It will be readily apparent to those skilled in the art that the formulations, dosages, methods of administration, and other parameters of this invention may be further modified or substituted in various ways without departing from the spirit and scope of the invention. Efforts have been made to ensure accuracy with respect to numbers used (e.g. amounts, temperature, etc.) but some experimental errors and deviations should be accounted for. Unless indicated otherwise, parts are parts by weight, molecular weight is weight average molecular weight, temperature is in degrees Centigrade, and pressure is at or near atmospheric.

#### Example 1: Source of Biological Materials and Overview of Novel Polynucleotides Expressed by the Biological Materials

[00173] Candidate polynucleotides that may represent novel polynucleotides were obtained from cDNA libraries generated from selected cell lines and patient tissues. In order to obtain the candidate polynucleotides, mRNA was isolated from several selected cell lines and patient tissues, and used to construct cDNA libraries. The cells and tissues that served as sources for these cDNA libraries are summarized in Table 1 below.

[00174] Human colon cancer cell line Km12L4-A (Morikawa, et al., Cancer Research (1988) 48:6863) is derived from the KM12C cell line. The KM12C cell line (Morikawa et al. Cancer Res. (1988) 48:1943-1948), which is poorly metastatic (low metastatic) was established in culture from a Dukes' stage B2 surgical specimen (Morikawa et al. Cancer Res. (1988) 48:6863). The KM12L4-A is a highly metastatic subline derived from KM12C (Yeatman et al. Nucl. Acids. Res. (1995) 23:4007; Bao-Ling et al. Proc. Annu. Meet. Am. Assoc. Cancer. Res. (1995) 21:3269). The KM12C and KM12C-derived cell lines (e.g., KM12L4, KM12L4-A, etc.) are well-recognized in the art as a model cell line for the study of colon cancer (see, e.g., Moriakawa et al., supra; Radinsky et al. Clin. Cancer Res. (1995) 1:19; Yeatman et al., (1995) supra; Yeatman et al. Clin. Exp. Metastasis (1996) 14:246).

[00175] The MDA-MB-231 cell line (Brinkley et al. Cancer Res. (1980) 40:3118-3129) was originally isolated from pleural effusions (Cailleau, J. Natl. Cancer. Inst. (1974) 53:661), is of high

metastatic potential, and forms poorly differentiated adenocarcinoma grade II in nude mice consistent with breast carcinoma. The MCF7 cell line was derived from a pleural effusion of a breast adenocarcinoma and is non-metastatic. The MV-522 cell line is derived from a human lung carcinoma and is of high metastatic potential. The UCP-3 cell line is a low metastatic human lung carcinoma cell line; the MV-522 is a high metastatic variant of UCP-3. These cell lines are well-recognized in the art as models for the study of human breast and lung cancer (see, e.g., Chandrasekaran et al., *Cancer Res.* (1979) 39:870 (MDA-MB-231 and MCF-7); Gastpar et al., *J Med Chem* (1998) 41:4965 (MDA-MB-231 and MCF-7); Ranson et al., *Br J Cancer* (1998) 77:1586 (MDA-MB-231 and MCF-7); Kuang et al., *Nucleic Acids Res* (1998) 26:1116 (MDA-MB-231 and MCF-7); Varki et al., *Int J Cancer* (1987) 40:46 (UCP-3); Varki et al., *Tumour Biol.* (1990) 11:327; (MV-522 and UCP-3); Varki et al., *Anticancer Res.* (1990) 10:637; (MV-522); Kelner et al., *Anticancer Res* (1995) 15:867 (MV-522); and Zhang et al., *Anticancer Drugs* (1997) 8:696 (MV522)).

**[00176]** The samples of libraries 15-20 are derived from two different patients (UC#2, and UC#3). The bFGF-treated HMVEC were prepared by incubation with bFGF at 10ng/ml for 2 hrs; the VEGF-treated HMVEC were prepared by incubation with 20ng/ml VEGF for 2 hrs. Following incubation with the respective growth factor, the cells were washed and lysis buffer added for RNA preparation. The GRRpz and WOca cell lines were provided by Dr. Donna M. Peehl, Department of Medicine, Stanford University School of Medicine. GRRpz was derived from normal prostate epithelium. The WOca cell line is a Gleason Grade 4 cell line.

**Table 1.** Description of cDNA Libraries

Library (lib #)	Description	Number of Clones in Library
0	Artificial library composed of deselected clones (clones with no associated variant or cluster)	673
1	Human Colon Cell Line Km12 L4: High Metastatic Potential (derived from Km12C)	308731
2	Human Colon Cell Line Km12C: Low Metastatic Potential	284771
3	Human Breast Cancer Cell Line MDA-MB-231: High Metastatic Potential; micro-mets in lung	326937
4	Human Breast Cancer Cell Line MCF7: Non Metastatic	318979
8	Human Lung Cancer Cell Line MV-522: High Metastatic Potential	223620
9	Human Lung Cancer Cell Line UCP-3: Low Metastatic Potential	312503
12	Human microvascular endothelial cells (HMEC) - UNTREATED (PCR (OligodT) cDNA library)	41938
13	Human microvascular endothelial cells (HMEC) - bFGF TREATED (PCR (OligodT) cDNA library)	42100
14	Human microvascular endothelial cells (HMEC) - VEGF TREATED (PCR (OligodT) cDNA library)	42825
15	Normal Colon - UC#2 Patient (MICRODISSECTED PCR (OligodT) cDNA library)	282722

Library (lib #)	Description	Number of Clones in Library
16	Colon Tumor - UC#2 Patient (MICRODISSECTED PCR (OligodT) cDNA library)	298831
17	Liver Metastasis from Colon Tumor of UC#2 Patient (MICRODISSECTED PCR (OligodT) cDNA library)	303467
18	Normal Colon - UC#3 Patient (MICRODISSECTED PCR (OligodT) cDNA library)	36216
19	Colon Tumor - UC#3 Patient (MICRODISSECTED PCR (OligodT) cDNA library)	41388
20	Liver Metastasis from Colon Tumor of UC#3 Patient (MICRODISSECTED PCR (OligodT) cDNA library)	30956
21	GRRpz Cells derived from normal prostate epithelium	164801
22	WOca Cells derived from Gleason Grade 4 prostate cancer epithelium	162088
23	Normal Lung Epithelium of Patient #1006 (MICRODISSECTED PCR (OligodT) cDNA library)	306198
24	Primary tumor, Large Cell Carcinoma of Patient #1006 (MICRODISSECTED PCR (OligodT) cDNA library)	309349
25	Normal Prostate Epithelium from Patient IF97-26811	279444
26	Prostate Cancer Epithelium Gleason 3+3 Patient IF97-26811	269406
27	Normal Breast Epithelium from Patient 515	239494
28	Primary Breast tumor from Patient 515	259960
29	Lymph node metastasis from Patient 515	326786
30	Normal Prostate Epithelium from Chiron Patient ID 884	298431
31	Prostate Cancer Epithelium (Gleason 4+4) from Chiron Patient ID 884	331941

#### Characterization of sequences in the libraries

[00177] After using the software program Phred (ver 0.000925.c, Green and Weing., ©1993-2000) to select those polynucleotides having the best quality sequence, the polynucleotides were compared against the public databases to identify any homologous sequences. The sequences of the isolated polynucleotides were first masked to eliminate low complexity sequences using the BLASTX masking program (Claverie "Effective Large-Scale Sequence Similarity Searches," In: Computer Methods for Macromolecular Sequence Analysis, Doolittle, ed., Meth. Enzymol. 266:212-227 Academic Press, NY, NY (1996); see particularly Claverie, in "Automated DNA Sequencing and Analysis Techniques" Adams et al., eds., Chap. 36, p. 267 Academic Press, San Diego, 1994 and Claverie et al. Comput. Chem. (1993) 17:191 ). Generally, masking does not influence the final search results, except to eliminate sequences of relatively little interest due to their low complexity, and to eliminate multiple "hits" based on similarity to repetitive regions common to multiple sequences, e.g., Alu repeats. The remaining sequences were then used in a BLASTN vs. GenBank search; sequences that exhibited greater than 70% overlap, 99% identity, and a p value of less than  $1 \times 10^{-40}$  were discarded. Sequences from this search also were discarded if the inclusive parameters were met, but the sequence was ribosomal or vector-derived.

[00178] The resulting sequences from the previous search were classified into three groups (1, 2 and 3 below) and searched in a BLASTX vs. NRP (non-redundant proteins) database search: (1) unknown (no hits in the GenBank search), (2) weak similarity (greater than 45% identity and p value of less than  $1 \times 10^{-5}$ ), and (3) high similarity (greater than 60% overlap, greater than 80% identity, and p value less than  $1 \times 10^{-5}$ ). Sequences having greater than 70% overlap, greater than 99% identity, and p value of less than  $1 \times 10^{-40}$  were discarded.

[00179] The remaining sequences were classified as unknown (no hits), weak similarity, and high similarity (parameters as above). Two searches were performed on these sequences. First, a BLAST vs. EST database search was performed and sequences with greater than 99% overlap, greater than 99% similarity and a p value of less than  $1 \times 10^{-40}$  were discarded. Sequences with a p value of less than  $1 \times 10^{-65}$  when compared to a database sequence of human origin were also excluded. Second, a BLASTN vs. Patent GeneSeq database was performed and sequences having greater than 99% identity, p value less than  $1 \times 10^{-40}$ , and greater than 99% overlap were discarded.

[00180] The remaining sequences were subjected to screening using other rules and redundancies in the dataset. Sequences with a p value of less than  $1 \times 10^{-111}$  in relation to a database sequence of human origin were specifically excluded. The final result provided the 8064 sequences listed as SEQ ID NOS:1-6010 in the accompanying Sequence Listing and summarized in Table 2 (inserted prior to claims). Each identified polynucleotide represents sequence from at least a partial mRNA transcript.

#### Summary of polynucleotides of the invention

Table 2 (inserted prior to claims) provides a summary of polynucleotides isolated as described. Specifically, Table 2 provides: 1) the SEQ ID NO ("SEQ ID") assigned to each sequence for use in the present specification; 2) the Cluster Identification No. ("CLUSTER"); 3) the Sequence Name assigned to each sequence; 3) the sequence name ("SEQ NAME") used as an internal identifier of the sequence; 4) the orientation of the sequence ("ORIENT") (either forward (F) or reverse (R)); 5) the name assigned to the clone from which the sequence was isolated ("CLONE ID"); and the name of the library from which the sequence was isolated ("LIBRARY"), where the notation indicates that name of the cell line or patient sample (*e.g.*, UC2-NormColon indicates the sequence was isolated from normal colon tissue of the patient assigned the identification UC#2). Because at least some of the provided polynucleotides represent partial mRNA transcripts, two or more polynucleotides may represent different regions of the same mRNA transcript and the same gene and/or may be contained within the same clone. Thus, for example, if two or more SEQ ID NOS: are identified as belonging to the same clone, then either sequence can be used to obtain the full-length mRNA or gene



Example 2: Results of Public Database Search to Identify Function of Gene Products

**[00181]** SEQ ID NOS:1-6010 were translated in all three reading frames, and the nucleotide sequences and translated amino acid sequences used as query sequences to search for homologous sequences in either the GenBank (nucleotide sequences) or Non-Redundant Protein (amino acid sequences) databases. Query and individual sequences were aligned using the BLAST 2.0 programs, available over the world wide at a site sponsored by the National Center for Biotechnology Information, which is supported by the National Library of Medicine and the National Institutes of Health (see also Altschul, et al. Nucleic Acids Res. (1997) 25:3389-3402). The sequences were masked to various extents to prevent searching of repetitive sequences or poly-A sequences, using the BLASTX program for masking low complexity as described above in Example 1.

**[00182]** Tables 3A and 3B (inserted prior to claims) provides the alignment summaries having a p value of  $1 \times 10^{-2}$  or less indicating substantial homology between the sequences of the present invention and those of the indicated public databases. Specifically, Table 3A provides the SEQ ID NO of the query sequence, the accession number of the GenBank database entry of the homologous sequence, and the individual p value of each alignment. Table 3A provides the SEQ ID NO of the query sequence, the accession number of the Non-Redundant Protein database entry of the homologous sequence, and the individual p value of each alignment. The alignments provided in Tables 3A and 3B are the best available alignment to a DNA or amino acid sequence at a time just prior to filing of the present specification. The activity of the polypeptide encoded by the SEQ ID NOS listed in these tables can be extrapolated to be substantially the same or substantially similar to the activity of the reported nearest neighbor or closely related sequence. The accession number of the nearest neighbor is reported, providing a publicly available reference to the activities and functions exhibited by the nearest neighbor. The public information regarding the activities and functions of each of the nearest neighbor sequences is incorporated by reference in this application. Also incorporated by reference is all publicly available information regarding the sequence, as well as the putative and actual activities and functions of the nearest neighbor sequences listed in Tables 3A and 3B and their related sequences. The search program and database used for the alignment, as well as the calculation of the p value are also indicated.

**[00183]** Full length sequences or fragments of the polynucleotide sequences of the nearest neighbors can be used as probes and primers to identify and isolate the full length sequence of the corresponding polynucleotide. The nearest neighbors can indicate a tissue or cell type to be used to construct a library for the full-length sequences of the corresponding polynucleotides.

### Example 3:Members of Protein Families

**[00184]** SEQ ID NOS:1-6010 were used to conduct a profile search as described in the specification above. Several of the polynucleotides of the invention were found to encode polypeptides having characteristics of a polypeptide belonging to a known protein family (and thus represent members of these protein families) and/or comprising a known functional domain. Table 4 (inserted before claims) provides the SEQ ID NO: of the query sequence, the Sequence Name, the Cluster to which the sequence is assigned, a brief description of the profile hit, the orientation (Direction, "Dir") of the query sequence with respect to the individual sequence )where forward (for) indicates that the alignment is in the same direction (left to right) as the sequence provided in the Sequence Listing and reverse (rev) indicates that the alignment is with a sequence complementary to the sequence provided in the Sequence Listing), and the score of the profile hit.

**[00185]** Some polynucleotides exhibited multiple profile hits where the query sequence contains overlapping profile regions, and/or where the sequence contains two different functional domains. Each of the profile hits of Table 4 is described in more detail below. The acronyms for the profiles (provided in parentheses) are those used to identify the profile in the Pfam, Prosite, and InterPro databases. The Pfam database can be accessed through web sites supported by Genome Sequencing Center at the Washington University School of Medicine or by the European Molecular Biology Laboratories in Heidelberg, Germany. The Prosite database can be accessed at the ExPASy Molecular Biology Server on the internet. The InterPro database can be accessed at a web site supported by the EMBL European Bioinformatics Institute. The public information available on the Pfam, Prosite, and InterPro databases regarding the various profiles, including but not limited to the activities, function, and consensus sequences of various proteins families and protein domains, is incorporated herein by reference.

**[00186]** Seven Transmembrane Integral Membrane Proteins -- Rhodopsin Family (7tm 1; Pfam Accession No. PF00001). SEQ ID NOS:2973, 5467, and 5508 correspond to sequences encoding a polypeptides that are members of the seven transmembrane (7tm) receptor rhodopsin family. G-protein coupled receptors of the (7tm) rhodopsin family (also called R7G) are an extensive group of hormones, neurotransmitters, and light receptors which transduce extracellular signals by interaction with guanine nucleotide-binding (G) proteins (Strosberg, Eur. J. Biochem. (1991) 196:1; Kerlavage, Curr. Opin. Struct. Biol. (1991) 1:394; Probst et al., DNA Cell Biol. (1992) 11:1; Savarese et al., Biochem. J. (1992) 283:1. The consensus pattern that contains the conserved triplet and that also spans the major part of the third transmembrane helix is used to detect this widespread family of proteins: [GSTALIVMFYWC]-[GSTANCPDE]-{EDPKRH}-x(2)-[LIVMNQGA]-x(2)- [LIVMFT]-[GSTANC]-[LIVMFYWSTAC]-[DENH]-R-[FYWCSH]-x(2)- [LIVM].

**[00187]** Ank Repeats (ANK; Pfam Accession No. PF0023). SEQ ID NOS:445, 487 and 3013 represent polynucleotides encoding Ank repeat-containing proteins. The ankyrin motif is a 33 amino acid sequence named after the protein ankyrin which has 24 tandem 33-amino-acid motifs. Ank repeats were originally identified in the cell-cycle-control protein cdc10 (Breedon et al., *Nature* (1987) 329:651). Proteins containing ankyrin repeats include ankyrin, myotropin, I-kappaB proteins, cell cycle protein cdc10, the Notch receptor (Matsuno et al., *Development* (1997) 124(21):4265); G9a (or BAT8) of the class III region of the major histocompatibility complex (*Biochem J.* (1993) 290:811-818); FABP, GABP, 53BP2, Lin12, glp-1, SW14, and SW16. The functions of the ankyrin repeats are compatible with a role in protein-protein interactions (Bork, *Proteins* (1993) 17(4):363; Lambert and Bennet, *Eur. J. Biochem.* (1993) 211:1; Kerr et al., *Current Op. Cell Biol.* (1992) 4:496; Bennet et al., *J. Biol. Chem.* (1980) 255:6424).

**[00188]** Basic Region Plus Leucine Zipper Transcription Factors (BZIP; Pfam Accession No. PF00170). SEQ ID NOS:108, 1714, 3931, and 4356 represent polynucleotides encoding novel members of the family of basic region plus leucine zipper transcription factors. The bZIP superfamily (Hurst, *Protein Prof.* (1995) 2:105; and Ellenberger, *Curr. Opin. Struct. Biol.* (1994) 4:12) of eukaryotic DNA-binding transcription factors encompasses proteins that contain a basic region mediating sequence-specific DNA-binding followed by a leucine zipper required for dimerization. The consensus pattern for this protein family is: [KR]-x(1,3)-[RKSAQ]-N-x(2)-[SAQ](2)-x-[RKTAENQ]-x-R-x-[RK].

**[00189]** DEAD and DEAH box families ATP-dependent helicases (Dead\_box\_helic; Pfam Accession No. PF00270). SEQ ID NOS:38, 415, and 5756 correspond to sequences encoding a polypeptides that are members of the DEAD box family. A number of eukaryotic and prokaryotic proteins have been characterized (Schmid et al., *Mol. Microbiol.* (1992) 6:283; Linder et al., *Nature* (1989) 337:121; Wassarman et al., *Nature* (1991) 349:463) on the basis of their structural similarity. All are involved in ATP-dependent, nucleic-acid unwinding. All DEAD box family members of the above proteins share a number of conserved sequence motifs, some of which are specific to the DEAD family while others are shared by other ATP-binding proteins or by proteins belonging to the helicases 'superfamily' (Hodgman, *Nature* (1988) 333:22 and *Nature* (1988) 333:578 (Errata)). One of these motifs, called the 'D-E-A-D-box', represents a special version of the B motif of ATP-binding proteins. Some other proteins belong to a subfamily which have His instead of the second Asp and are thus said to be 'D-E-A-H-box' proteins (Wassarman et al., *Nature* (1991) 349:463; Harosh et al., *Nucleic Acids Res.* (1991) 19:6331; Koonin et al., *J. Gen. Virol.* (1992) 73:989). The following signature patterns are used to identify member for both subfamilies: 1) [LIVMF](2)-D-E-A-D-[RKEN]-x-[LIVMFYGSTN]; and 2) [GSAH]-x-[LIVMF](3)-D-E-[ALIV]-H-[NECR].

**[00190]** Defensins (defensins; Pfam Accession No. PF00323). SEQ ID NO:486 corresponds to a sequence encoding a polypeptide that is a member of the mammalian defensin family. Defensins are a family of structurally related cysteine-rich peptides which are active against many Gram-positive bacteria, fungi, and enveloped viruses (Lehrer *et al.*, *ASM News* (1990) 56:315-318; Lehrer *et al.*, *Cell* (1991) 64:229-230; Kagan *et al.*, *Toxicology* (1994) 87:131-149; Lehrer *et al.*, *Annu. Rev. Immunol.* (1993) 11:105-128; White *et al.*, *Curr. Opin. Struct. Biol.* (1995) 5:521-527). Some defensins inhibit corticotropoid-stimulated corticosteroid production and also play a significant role in innate immunity to infection and neoplasia. The peptides known to belong to this family range in length from 29 to 35 amino acids and have seven invariant residues, including six cysteines that are all involved in intrachain disulfide bonds. The following consensus pattern is used to identify members of this protein family: C-x-C-x(3,5)-C-x(7)-G-x-C-x(9)-C-C.

**[00191]** EF Hand (Efhand; Pfam Accession No. PF00036). SEQ ID NO:4373 corresponds to a polynucleotide encoding a member of the EF-hand protein family, a calcium binding domain shared by many calcium-binding proteins belonging to the same evolutionary family (Kawasaki *et al.*, *Protein. Prof.* (1995) 2:305-490). The domain is a twelve residue loop flanked on both sides by a twelve residue alpha-helical domain, with a calcium ion coordinated in a pentagonal bipyramidal configuration. The six residues involved in the binding are in positions 1, 3, 5, 7, 9 and 12; these residues are denoted by X, Y, Z, -Y, -X and -Z. The invariant Glu or Asp at position 12 provides two oxygens for liganding Ca (bidentate ligand). The consensus pattern includes the complete EF-hand loop as well as the first residue which follows the loop and which seem to always be hydrophobic: D-x-[DNS]-{ILVFWY}-[DENSTG]-[DNQGHRK]-{GP}-[LIVMC]-[DENQSTAGC]-x(2)-[DE]-[LIVMFYW].

**[00192]** Epidermal Growth Factor (EGF; Pfam Accession No. PF00008). SEQ ID NO:3689 represents a polynucleotide encoding a member of the EGF family of proteins. The distinguishing characteristic of this family is the presence of a sequence of about thirty to forty amino acid residues found in epidermal growth factor (EGF) which has been shown to be present, in a more or less conserved form, in a large number of other proteins (Davis, *New Biol.* (1990) 2:410-419; Blomquist *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* (1984) 81:7363-7367; Barkert *et al.*, *Protein Nucl. Acid Enz.* (1986) 29:54-86; Doolittle *et al.*, *Nature.* (1984) 307:558-560; Appella *et al.*, *FEBS Lett.* (1988) 231:1-4; Campbell and Bork, *Curr. Opin. Struct. Biol.* (1993) 3:385-392). A common feature of the domain is that the conserved pattern is generally found in the extracellular domain of membrane-bound proteins or in proteins known to be secreted. The EGF domain includes six cysteine residues which have been shown to be involved in disulfide bonds. The main structure is a two-stranded beta-sheet followed by a loop to a C-terminal short two-stranded sheet. Subdomains between the conserved cysteines strongly

vary in length. The following consensus patterns are used to identify members of this family: C-x-C-x(5)-G-x(2)-C and C-x-C-x(s)-[GP]-[FYW]-x(4,8)-C.

**[00193]** Ets Domain (Ets\_Cterm; Pfam Accession No. PF00178). SEQ ID NO:6 represents a polynucleotide encoding a polypeptide with C-terminal homology in the ETS domain. Proteins of this family contain a conserved domain, the "ETS-domain," that is involved in DNA binding. The domain appears to recognize purine-rich sequences; it is about 85 to 90 amino acids in length, and is rich in aromatic and positively charged residues (Wasylyk *et al.*, *Eur. J. Biochem.* (1993) 211:718). The *ets* gene family encodes a novel class of DNA-binding proteins, each of which binds a specific DNA sequence and comprises an *ets* domain that specifically interacts with sequences containing the common core tri-nucleotide sequence GGA. In addition to an *ets* domain, native *ets* proteins comprise other sequences which can modulate the biological specificity of the protein. *Ets* genes and proteins are involved in a variety of essential biological processes including cell growth, differentiation and development, and three members are implicated in oncogenic process.

**[00194]** Pleckstrin Homology (PH; Pfam Accession No. PF00169). SEQ ID NOS:228 and 6001 correspond to polynucleotides encoding members of the PH family. The pleckstrin homology domain is a domain of about 100 residues that occurs in a wide range of proteins involved in intracellular signaling or as constituents of the cytoskeleton (Mayer *et al.*, *Cell* (1993) 73:629-630; Haslam *et al.*, *Nature* (1993) 363:309-310; Musacchio *et al.*, *Trends Biochem. Sci.* (1993) 18:343-348; Gibson *et al.*, *Trends Biochem. Sci.* (1994) 19:349-353; Pawson, *Nature* (1995) 373:573-580; Ingley and Hemmings, *J. Cell. Biochem.* (1994) 56:436-443; Saraste and Hyvonen, *Curr. Opin. Struct. Biol.* (1995) 5:403-408). All known structures of PH domains have two perpendicular anti-parallel beta sheets, followed by a C-terminal amphipathic helix. The loops connecting the beta-strands differ greatly in length, making the PH domain relatively difficult to detect (Riddihough, *Nat. Struct. Biol.* (1994) 1:755-757). There are no totally invariant residues within this domain.

**[00195]** Protein Kinase (protkinase; Pfam Accession No. PF00069). SEQ ID NOS:9, 39, 69, 118, 229 and 4151 represent polynucleotides encoding protein kinases, which catalyze phosphorylation of proteins in a variety of pathways, and are implicated in cancer. Eukaryotic protein kinases (Hanks *et al.*, *FASEB J.* (1995) 9:576; Hunter, *Meth. Enzymol.* (1991) 200:3; Hanks *et al.*, *Meth. Enzymol.* (1991) 200:38; Hanks, *Curr. Opin. Struct. Biol.* (1991) 1:369; Hanks *et al.*, *Science* (1988) 241:42) belong to a very extensive family of proteins that share a conserved catalytic core common to both serine/threonine and tyrosine protein kinases. There are a number of conserved regions in the catalytic domain of protein kinases. The first region, located in the N-terminal extremity of the catalytic domain, is a glycine-rich stretch of residues in the vicinity of a lysine residue, which has been shown to be involved in ATP binding. The second region, located in the central part of the catalytic domain,

contains a conserved aspartic acid residue that is important for the catalytic activity of the enzyme (Knighton *et al.*, *Science* (1991) 253:407).

**[00196]** The protein kinase profile includes two signature patterns for this second region: one specific for serine/threonine kinases and the other for tyrosine kinases. A third profile is based on the alignment in Hanks *et al.* (*FASEB J.* (1995) 9:576) and covers the entire catalytic domain. The consensus patterns are as follows: 1) [LIV]-G-{P}-G-{P}-[FYWMGSTNH]-[SGA]-{PW}-[LIVCAT]-{PD}-x-[GSTACLIVMFY]-x(5,18)-[LIVMFYWCSTAR]-[AIVP]-[LIVMFAGCKR]-K, where K binds ATP; 2) [LIVMFYC]-x-[HY]-x-D-[LIVMFY]-K-x(2)-N-[LIVMFYCT](3), where D is an active site residue; and 3) [LIVMFYC]-x-[HY]-x-D-[LIVMFY]-[RSTAC]-x(2)-N-[LIVMFYC], where D is an active site residue.

**[00197]** Retroviral aspartyl protease (RVP; Pfam Accession No. PF00077). SEQ ID NO:2038 corresponds to a polynucleotide encoding a member of the Aspartyl Protease family. Aspartyl proteases, also known as acid proteases, are a widely distributed family of proteolytic enzymes known to exist in vertebrates, fungi, plants, retroviruses and some plant viruses (Foltmann, *Essays Biochem.* (1981) 17:52-84; Davies, *Annu. Rev. Biophys. Chem.* (1990) 19:189-215; Rao *et al.*, *Biochemistry* (1991) 30:4663-4671). Most retroviral aspartyl proteases (RVP) are homodimers of a chain of about 95 to 125 amino acids. In most retroviruses, the protease is encoded as a segment of a polyprotein which is cleaved during the maturation process of the virus. RVP is generally part of the pol polyprotein and, more rarely, of the gag polyprotein. The consensus pattern is as follows: [LIVMFGAC]-[LIVMTADN]-[LIVFSA]-D-[ST]-G-[STAV]-[STAPDENQ]-x-[LIVMFSTNC]-x-[LIVMFGTA] [D is the active site residue].

**[00198]** Reverse Transcriptase (rvt; Pfam Accession No. PF00078). SEQ ID NOS:1511 and 2514 represent polynucleotides encoding reverse transcriptases, which occur in a variety of mobile elements, including retrotransposons, retroviruses, group II introns, bacterial msDNAs, hepadnaviruses, and caulimoviruses (Xiong and Eickbush, *EMBO J* (1990) 9:3353-3362). Reverse transcriptases catalyze RNA-template-directed extension of the 3'-end of a DNA strand by one deoxynucleotide at a time and require an RNA or DNA primer.

**[00199]** Transforming growth factor beta like domain (TGF\_beta; Pfam Accession No. PF00019). SEQ ID NO:5522 represents a polynucleotide encoding a polypeptide of the TGF-beta family. Proteins from the transforming growth factor-beta family are active as homo- or hetero-dimers with the two chains being linked by a single disulfide bond (Roberts and Sporn, *In Peptide growth factors and their receptors*, Handbook of Experimental Pharmacology, Vol. 95, pp419-475, Springer Verlag, Heidelberg, (1990); Burt, *Biochem. Biophys. Res. Commun.* (1992) 184:590-595; Burt and Law, *Prog. Growth Factor Res.* (1994) 5:99-118). It is known from X-ray studies that all the other

cysteines of the sequence are involved in interchain disulfide bonds (Daopin *et al.*, *Science* (1992) 257:369-373). Members of this family can be recognized by the following consensus pattern: [LIVM]-x(2)-P-x(2)-[FY]-x(4)-C-x-G-x-C (The two C's are involved in disulfide bonds).

**[00200]** WD Domain (WD40), G-Beta Repeats (WD domain; Pfam Accession No. PF00400). SEQ ID NO:117 represents a member of the WD domain/G-beta repeat family. Beta-transducin (G-beta) is one of the three subunits (alpha, beta, and gamma) of the guanine nucleotide-binding proteins (G proteins) which act as intermediaries in the transduction of signals generated by transmembrane receptors (Gilman, *Annu. Rev. Biochem.* (1987) 56:615). The alpha subunit binds to and hydrolyzes GTP; the beta and gamma subunits are required for the replacement of GDP by GTP as well as for membrane anchoring and receptor recognition. In higher eukaryotes, G-beta exists as a small multigene family of highly conserved proteins of about 340 amino acid residues. Structurally, G-beta has eight tandem repeats of about 40 residues, each containing a central Trp-Asp motif (this type of repeat is sometimes called a WD-40 repeat). The consensus pattern for the WD domain/G-Beta repeat family is: [LIVMSTAC]-[LIVMFYWSTAGC]-[LIMSTAG]-[LIVMSTAGC]-x(2)-[DN]-x(2)-[LIVMWSTAC]-x-[LIVMFSTAG]-W-[DEN]-[LIVMFSTAGCN].

**[00201]** Zinc Finger, C2H2 Type (Zincfing\_C2H2; Pfam Accession No. PF00096). SEQ ID NOS: 61, 502, 700, 847, 2034, 2054, 3403, 3524, 3653, 3723, 4688, and 4979 correspond to polynucleotides encoding members of the C2H2 type zinc finger protein family, which contain zinc finger domains that facilitate nucleic acid binding (Klug *et al.*, *Trends Biochem. Sci.* (1987) 12:464; Evans *et al.*, *Cell* (1988) 52:1; Payre *et al.*, *FEBS Lett.* (1988) 234:245; Miller *et al.*, *EMBO J.* (1985) 4:1609; and Berg, *Proc. Natl. Acad. Sci. USA* (1988) 85:99). In addition to the conserved zinc ligand residues, a number of other positions are also important for the structural integrity of the C2H2 zinc fingers (Rosenfeld *et al.*, *J. Biomol. Struct. Dyn.* (1993) 11:557). The best conserved position, which is generally an aromatic or aliphatic residue, is located four residues after the second cysteine. The consensus pattern for C2H2 zinc fingers is: C-x(2,4)-C-x(3)-[LIVMFYWC]-x(8)-H-x(3,5)-H. The two C's and two H's are zinc ligands.

**[00202]** Zinc Finger, C2HC Type (Zincfing\_C2HC; Pfam Accession No. PF01530). SEQ ID NO:3814 represents a member of the C2HC zinc finger family. The 18 residue C2HC domain is mainly found in the retroviral nucleocapsid protein, and is required for viral genome packaging and for the early infection process (Katz and Jentoft, *Bioessays* (1989) 11:176-181; Urbaneja *et al.*, *J Mol Biol.* (1999) 287:59-75). In addition, the CCHC domain is found in eukaryotic proteins involved in RNA binding or single-strand DNA binding.

**[00203]** Zinc finger, C3HC4 type (RING finger), signature (Zincfing\_C3HC4; Pfam Accession No. PF00097). SEQ ID NO:3140 represents a polynucleotide encoding a polypeptide having a

C3HC4 type zinc finger signature. A number of eukaryotic and viral proteins contain this signature, which is primarily a conserved cysteine-rich domain of 40 to 60 residues (Borden *et al.*, *Curr. Opin. Struct. Biol.* (1996) 6:395) that binds two atoms of zinc, and is probably involved in mediating protein-protein interactions. The 3D structure of the zinc ligation system is unique to the RING domain and is referred to as the "cross-brace" motif. The spacing of the cysteines in such a domain is C-x(2)-C-x(9 to 39)-C-x(1 to 3)-H-x(2 to 3)-C-x(2)-C-x(4 to 48)-C-x(2)-C. The signature pattern for the C3HC4 finger is based on the domain's central region: C-x-H-x-[LIVMFY]-C-x(2)-C-[LIVMYA].

**[00204]** Zinc finger, CCCH type. (Zincfing\_CCCH; Pfam Accession No. PF00642). SEQ ID NO:877 corresponds to a polynucleotide encoding a member of the CCCH zinc finger protein family. This domain is present in many eukaryotic proteins, including zinc finger proteins involved in cell cycle or growth phase-related regulation and regulatory proteins involved in regulating the response to growth factors. It has been shown that proteins containing the CCCH zinc finger interact with the 3' untranslated region of various mRNA (Carballo *et al.*, *Science* (1998) 281:1001-1005; Lai *et al.*, *Mol. Cell. Biol.* (1999) 19:4311-4323) and that this domain is often present in two copies. The consensus pattern for the CCCH zinc fingers is: C-x8-C-x5-C-x3-H.

#### Example 4: Description of Libraries and Detection of Differential Expression

**[00205]** The relative expression levels of the polynucleotides of the invention were assessed in several libraries prepared from various sources, including cell lines and patient tissue samples. Table 1 above provides a summary of these libraries, including the shortened library name, the mRNA source used to prepared the cDNA library, the "nickname" of the library that is used in the tables below (in quotes), and the approximate number of clones in the library.

**[00206]** Each of the libraries is composed of a collection of cDNA clones that in turn are representative of the mRNAs expressed in the indicated mRNA source. In order to facilitate the analysis of the millions of sequences in each library, the sequences were assigned to clusters. The concept of "cluster of clones" is derived from a sorting/grouping of cDNA clones based on their hybridization pattern to a panel of roughly 300 7bp oligonucleotide probes (see Drmanac *et al.*, *Genomics* (1996) 37(1):29). Random cDNA clones from a tissue library are hybridized at moderate stringency to 300 7bp oligonucleotides. Each oligonucleotide has some measure of specific hybridization to that specific clone. The combination of 300 of these measures of hybridization for 300 probes equals the "hybridization signature" for a specific clone. Clones with similar sequence will have similar hybridization signatures. By developing a sorting/grouping algorithm to analyze these signatures, groups of clones in a library can be identified and brought together computationally. These groups of clones are termed "clusters". Depending on the stringency of the selection in the algorithm



(similar to the stringency of hybridization in a classic library cDNA screening protocol), the "purity" of each cluster can be controlled. For example, artifacts of clustering may occur in computational clustering just as artifacts can occur in "wet-lab" screening of a cDNA library with 400 bp cDNA fragments, at even the highest stringency. The stringency used in the implementation of cluster herein provides groups of clones that are in general from the same cDNA or closely related cDNAs. Closely related clones can be a result of different length clones of the same cDNA, closely related clones from highly related gene families, or splice variants of the same cDNA.

**[00207]** Differential expression for a selected cluster was assessed by first determining the number of cDNA clones corresponding to the selected cluster in the first library (Clones in 1<sup>st</sup>), and the determining the number of cDNA clones corresponding to the selected cluster in the second library (Clones in 2<sup>nd</sup>). Differential expression of the selected cluster in the first library relative to the second library is expressed as a "ratio" of percent expression between the two libraries. In general, the "ratio" is calculated by: 1) calculating the percent expression of the selected cluster in the first library by dividing the number of clones corresponding to a selected cluster in the first library by the total number of clones analyzed from the first library; 2) calculating the percent expression of the selected cluster in the second library by dividing the number of clones corresponding to a selected cluster in a second library by the total number of clones analyzed from the second library; 3) dividing the calculated percent expression from the first library by the calculated percent expression from the second library. If the "number of clones" corresponding to a selected cluster in a library is zero, the value is set at 1 to aid in calculation. The formula used in calculating the ratio takes into account the "depth" of each of the libraries being compared, *i.e.*, the total number of clones analyzed in each library.

**[00208]** In general, a polynucleotide is significantly differentially expressed between two samples when the ratio value is greater than at least about 2, preferably greater than at least about 3, more preferably greater than at least about 5, where the ratio value is calculated using the method described above. The significance of differential expression is determined using a z score test (Zar, Biostatistical Analysis, Prentice Hall, Inc., USA, "Differences Between Proportions," pp 296-298 (1974).

**[00209]** Using this approach, a number of polynucleotide sequences were identified as being differentially expressed between, for example, cells derived from high metastatic potential cancer tissue and low metastatic cancer cells, and between cells derived from metastatic cancer tissue and normal tissue. Evaluation of the levels of expression of the genes corresponding to these sequences can be valuable in diagnosis, prognosis, and/or treatment (*e.g.*, to facilitate rationale design of therapy, monitoring during and after therapy, *etc.*). Moreover, the genes corresponding to differentially expressed sequences described herein can be therapeutic targets due to their involvement in regulation (*e.g.*, inhibition or promotion) of development of, for example, the metastatic phenotype. For example,

sequences that correspond to genes that are increased in expression in high metastatic potential cells relative to normal or non-metastatic tumor cells may encode genes or regulatory sequences involved in processes such as angiogenesis, differentiation, cell replication, and metastasis.

[00210] Detection of the relative expression levels of differentially expressed polynucleotides described herein can provide valuable information to guide the clinician in the choice of therapy. For example, a patient sample exhibiting an expression level of one or more of these polynucleotides that corresponds to a gene that is increased in expression in metastatic or high metastatic potential cells may warrant more aggressive treatment for the patient. In contrast, detection of expression levels of a polynucleotide sequence that corresponds to expression levels associated with that of low metastatic potential cells may warrant a more positive prognosis than the gross pathology would suggest.

[00211] A number of polynucleotide sequences of the present invention are differentially expressed between human microvascular endothelial cells (HMVEC) that have been treated with growth factors relative to untreated HMVEC. Sequences that are differentially expressed between growth factor-treated HMVEC and untreated HMVEC can represent sequences encoding gene products involved in angiogenesis, metastasis (cell migration), and other development and oncogenic processes. For example, sequences that are more highly expressed in HMVEC treated with growth factors (such as bFGF or VEGF) relative to untreated HMVEC can serve as drug targets for chemotherapeutics, *e.g.*, decreasing expression of such up-regulated genes or inhibiting the activity of the encoded gene product would serve to inhibit tumor cell angiogenesis. Detection of expression of these sequences in colon cancer tissue can be valuable in determining diagnostic, prognostic and/or treatment information associated with the prevention of achieving the malignant state in these tissues, and can be important in risk assessment for a patient. A patient sample displaying an increased level of one or more of these polynucleotides may thus warrant closer attention or more frequent screening procedures to catch the malignant state as early as possible.

[00212] The differential expression of the polynucleotides can thus be used as, for example, diagnostic and/or prognostic markers, for risk assessment, patient treatment and the like. These polynucleotides can also be used in combination with other molecular and/or biochemical markers.

[00213] The differential expression data for polynucleotides of the invention that have been identified as being differentially expressed across various combinations of the libraries described above is summarized in Table 5 (inserted prior to the claims). Table 5 provides: 1) the Sequence Identification Number ("SEQ ID NO") assigned to the polynucleotide; 2) the cluster ("CLUSTER") to which the polynucleotide has been assigned as described above; 3) the library comparisons that resulted in identification of the polynucleotide as being differentially expressed ("PAIR AB"), where the cDNA libraries used are referenced by their library numbers; 4) the number of clones

corresponding to the polynucleotide in the first library listed ("CLONES A"); 5) the number of clones corresponding to the polynucleotide in the second library listed ("CLONES B"); 6) the "RATIO PLUS" where the comparison resulted in a finding that the number of clones in library A is greater than the number of clones in library B; and 7) the "RATIO MINUS" where the comparison resulted in a finding that the number of clones in library B is greater than the number of clones in library A.

**[00214]** Detection of expression of genes that correspond to the above polynucleotides may be of particular interest in diagnosis, prognosis, risk assessment, and monitoring of treatment. Furthermore, differential expression of a specific gene across multiple libraries can also be indicative of a gene whose expression is associated with, for example, suppression of the metastatic phenotype or with development of the cell toward a metastatic phenotype. For example, SEQ ID NO:3744 corresponds to a gene that is expressed at relatively higher levels in metastatized colon tumor than in normal colon tissue. Thus a relatively increased level of expression of the gene corresponding to SEQ ID NO:3744 may be used as marker of a metastatic or pre-metastatic colon cels either alone or in combination with other markers.

**[00215]** Some polynucleotides exhibited similar differential expression trends in libraries of different tissue origin (see, *e.g.*, SEQ ID NO:337). These data suggest that the differential expression patterns of some genes associated with development of tumors indicate a role for those genes that is non-specific to the tissue of origin.

Example 5: Detection of Differential Expression Using Arrays

**[00216]** mRNA isolated from samples of cancerous and normal colon tissue obtained from patients were analyzed to identify genes differentially expressed in cancerous and normal cells. Normal and cancerous cells collected from cryopreserved patient tissues were isolated using laser capture microdissection (LCM) techniques, which techniques are well known in the art (see, *e.g.*, Ohyama *et al.* (2000) *Biotechniques* 29:530-6; Curran *et al.* (2000) *Mol. Pathol.* 53:64-8; Suarez-Quian *et al.* (1999) *Biotechniques* 26:328-35; Simone *et al.* (1998) *Trends Genet* 14:272-6; Conia *et al.* (1997) *J. Clin. Lab. Anal.* 11:28-38; Emmert-Buck *et al.* (1996) *Science* 274:998-1001).

**[00217]** Table 6 (inserted before the claims) provides information about each patient from which colon tissue samples were isolated, including: the Patient ID ("PT ID") and Path ReportID ({Path ID}), which are numbers assigned to the patient and the pathology reports for identification purposes; the group ("Grp") to which the patients have been assigned; the anatomical location of the tumor ("Anatom Loc"); the primary tumor size ("Size"); the primary tumor grade ("Grade"); the identification of the histopathological grade ("Histo Grade"); a description of local sites to which the tumor had invaded ("Local Invasion"); the presence of lymph node metastases ("LN Met"); the incidence of lymph node metastases (provided as a number of lymph nodes positive for metastasis over the number of lymph

nodes examined) ("Incidence Lymphnode Met"); the "Regional Lymphnode Grade"; the identification or detection of metastases to sites distant to the tumor and their location ("Dist Met & Loc"); the grade of distant metastasis ("Dist Met Grade"); and general comments about the patient or the tumor ("Comments"). Histopathology of all primary tumors indicated the tumor was adenocarcinoma except for Patient ID Nos. 130 (for which no information was provided), 392 (in which greater than 50% of the cells were mucinous carcinoma), and 784 (adenosquamous carcinoma). Extranodal extensions were described in three patients, Patient ID Nos. 784, 789, and 791. Lymphovascular invasion was described in Patient ID Nos. 128, 278, 517, 534, 784, 786, 789, 791, 890, and 892. Crohn's-like infiltrates were described in seven patients, Patient ID Nos. 52, 264, 268, 392, 393, 784, and 791. Table 7 (below) provides information about the patients from whom the prostate tissue was isolated.

**Table 7.** Prostate patient data.

Prostate Patient ID	Tumor Gleason Grade	Normal Prostate Description
96	3+3 Adenocarcinoma	Normal prostate; Benign hyperplasia
282	4+3 Adenocarcinoma	Normal prostate; Benign hyperplasia
286	3+3 Adenocarcinoma	Normal prostate; Benign hyperplasia
294	3+4 Adenocarcinoma	Normal prostate; Benign hyperplasia
362	3+3 Adenocarcinoma	Normal prostate; Benign hyperplasia
428	4+3 Adenocarcinoma	Normal prostate; Benign hyperplasia
492	3+3 Adenocarcinoma	Normal prostate; Benign hyperplasia
492	3+3 Adenocarcinoma	Normal prostate; Benign hyperplasia
493	3+4 Adenocarcinoma	Normal prostate; Benign hyperplasia
510	3+3 Adenocarcinoma	Normal Prostate; Benign hyperplasia

#### Identification of differentially expressed genes

**[00218]** cDNA probes were prepared from total RNA isolated from the patient cells described above. Since LCM provides for the isolation of specific cell types to provide a substantially homogenous cell sample, this provided for a similarly pure RNA sample.

**[00219]** Total RNA was first reverse transcribed into cDNA using a primer containing a T7 RNA polymerase promoter, followed by second strand DNA synthesis. cDNA was then transcribed *in vitro* to produce antisense RNA using the T7 promoter-mediated expression (see, e.g., Luo *et al.* (1999) *Nature Med* 5:117-122), and the antisense RNA was then converted into cDNA. The second set of cDNAs were again transcribed *in vitro*, using the T7 promoter, to provide antisense RNA. Optionally, the RNA was again converted into cDNA, allowing for up to a third round of T7-mediated amplification to produce more antisense RNA. Thus the procedure provided for two or three rounds of *in vitro* transcription to produce the final RNA used for fluorescent labeling.

**[00220]** Fluorescent probes were generated by first adding control RNA to the antisense RNA mix, and producing fluorescently labeled cDNA from the RNA starting material. Fluorescently labeled cDNAs prepared from the tumor RNA sample were compared to fluorescently labeled cDNAs prepared

from normal cell RNA sample. For example, the cDNA probes from the normal cells were labeled with Cy3 fluorescent dye (green) and the cDNA probes prepared from the tumor cells were labeled with Cy5 fluorescent dye (red), and vice versa.

**[00221]** Each array used had an identical spatial layout and control spot set. Each microarray was divided into two areas, each area having an array with, on each half, twelve groupings of 32 x 12 spots, for a total of about 9,216 spots on each array. The two areas are spotted identically which provide for at least two duplicates of each clone per array.

**[00222]** Polynucleotides for use on the arrays were obtained from both publicly available sources and from cDNA libraries generated from selected cell lines and patient tissues. PCR products of from about 0.5kb to 2.0 kb amplified from these sources were spotted onto the array using a Molecular Dynamics Gen III spotter according to the manufacturer's recommendations. For polynucleotides described herein, the microarray spot contained a clone having a cDNA from which the sequence was derived. The first row of each of the 24 regions on the array had about 32 control spots, including 4 negative control spots and 8 test polynucleotides. The test polynucleotides were spiked into each sample before the labeling reaction with a range of concentrations from 2-600 pg/slide and ratios of 1:1. For each array design, two slides were hybridized with the test samples reverse-labeled in the labeling reaction. This provided for about four duplicate measurements for each clone, two of one color and two of the other, for each sample.

**[00223]** Table 8 (inserted before the claims) describes sequences present on the arrays. Table 8 includes: 1) the SEQ ID NO of the sequence of the polynucleotide; and 2) the Spot ID, which is a unique identifier for each spot containing target sequence of interest on all arrays used.

**[00224]** The differential expression assay was performed by mixing equal amounts of probes from tumor cells and normal cells of the same patient. The arrays were prehybridized by incubation for about 2 hrs at 60°C in 5X SSC/0.2% SDS/1 mM EDTA, and then washed three times in water and twice in isopropanol. Following prehybridization of the array, the probe mixture was then hybridized to the array under conditions of high stringency (overnight at 42°C in 50% formamide, 5X SSC, and 0.2% SDS. After hybridization, the array was washed at 55°C three times as follows: 1) first wash in 1X SSC/0.2% SDS; 2) second wash in 0.1X SSC/0.2% SDS; and 3) third wash in 0.1X SSC.

**[00225]** The arrays were then scanned for green and red fluorescence using a Molecular Dynamics Generation III dual color laser-scanner/detector. The images were processed using BioDiscovery Autogene software, and the data from each scan set normalized to provide for a ratio of expression relative to normal. Data from the microarray experiments was analyzed according to the algorithms described in U.S. application serial no. 60/252,358, filed November 20, 2000, by E.J. Moler, M.A.

Boyle, and F.M. Randazzo, and entitled "Precision and accuracy in cDNA microarray data," which application is specifically incorporated herein by reference.

[00226] The experiment was repeated, this time labeling the two probes with the opposite color in order to perform the assay in both "color directions." Each experiment was sometimes repeated with two more slides (one in each color direction). The level fluorescence for each sequence on the array expressed as a ratio of the geometric mean of 8 replicate spots/genes from the four arrays or 4 replicate spots/gene from 2 arrays or some other permutation. The data were normalized using the spiked positive controls present in each duplicated area, and the precision of this normalization was included in the final determination of the significance of each differential. The fluorescent intensity of each spot was also compared to the negative controls in each duplicated area to determine which spots have detected significant expression levels in each sample.

[00227] A statistical analysis of the fluorescent intensities was applied to each set of duplicate spots to assess the precision and significance of each differential measurement, resulting in a p-value testing the null hypothesis that there is no differential in the expression level between the tumor and normal samples of each patient. During initial analysis of the microarrays, the hypothesis was accepted if  $p > 10^{-3}$ , and the differential ratio was set to 1.000 for those spots. All other spots have a significant difference in expression between the tumor and normal sample. If the tumor sample has detectable expression and the normal does not, the ratio is truncated at 1000 since the value for expression in the normal sample would be zero, and the ratio would not be a mathematically useful value (e.g., infinity). If the normal sample has detectable expression and the tumor does not, the ratio is truncated to 0.001, since the value for expression in the tumor sample would be zero and the ratio would not be a mathematically useful value. These latter two situations are referred to herein as "on/off." Database tables were populated using a 95% confidence level ( $p > 0.05$ ).

[00228] Table 8 (inserted before the claims) provides the results for gene products differentially expressed in the colon tumor samples relative to normal tissue samples. Table 8 includes: 1) the SEQ ID NO; 2) the spot identification number ("SpotID"); 3) the percentage of patients tested in which expression levels of the gene (as detected using the corresponding clone) was at least 2-fold greater in cancerous colon tissue (primary colon tumor) than in matched normal tissue ("Colon > 2x T/N"); 4) the percentage of patients tested in which expression levels of the gene was less than or equal to one-half of the expression level in matched normal cells ("Colon ≤ halfx T/N"); and 5) the colon number ratios, indicating the number of patients upon which the provided ratios was based.

[00229] Table 9 below provides the data for differential expression analysis on the arrays using samples from metastasized colon tissue. In this example, the samples used for hybridization to sequences on the microarray were derived from the matched metastasized (MT) colon tissue and

normal (N) colon tissues of the patients. Table 9 includes: 1) the SEQ ID NO; 2) the percentage of patients tested in which expression levels of the gene (as detected using the corresponding clone) was at least 2-fold greater in metastasized cancerous colon tissue (MT) than in matched normal tissue ("Colon>2x MT/N "); 5) the percentage of patients tested in which expression levels of the gene was less than or equal to one-half of the expression level in matched normal cells ("Colon <=halfx T/N"); and 8) the colon number ratios, indicating the number of patients upon which the provided ratios was based. The corresponding data with the same sequence of the colon tumor tissue versus matched normal colon tissue (T/N) are provided for convenience in comparison.

**Table 9.** Polynucleotides Corresponding to Differentially Expressed Genes in Metastasized Colon Cancer Tissue

SEQ ID NO	Colon MT/N >2x	Colon MT/N <halfx	Colon MT/N Num Ratios by Clone	Colon T/N >2x	Colon T/N <halfx	Colon T/N Num Ratios
217	40.0	0.0	5.0	0.0	50.0	8.0
324	0.0	40.0	5.0	0.0	37.5	8.0
1653	0.0	40.0	5.0	0.0	37.5	8.0
1972	40.0	0.0	5.0	0.0	42.9	7.0
2346	20.0	40.0	5.0	0.0	85.7	7.0
2352	20.0	80.0	5.0	0.0	71.4	7.0
2353	20.0	40.0	5.0	0.0	85.7	7.0
2647	0.0	40.0	5.0	0.0	62.5	8.0
5341	0.0	40.0	5.0	0.0	37.5	8.0

**[00230]** Table 10 below provides the data for differential expression analysis on the arrays using samples from matched cancerous and normal prostate tissue (PT/N). Table 10 includes: 1) the SEQ ID NO; 2) the percentage of patients tested in which expression levels of the gene (as detected using the corresponding clone) was at least 2-fold greater in metastasized cancerous prostate tissue (PT) than in matched normal tissue ("Colon>2x PT/N "); 3) the percentage of patients tested in which expression levels of the gene was less than or equal to one-half of the expression level in matched normal cells ("Colon <=halfx PT/N"); and 4) the prostate PT/N number ratios, indicating the number of patients upon which the provided ratios was based. The corresponding data with the same sequences for the colon tumor versus normal (T/N) and metastasized colon tissue versus normal (MT/N) are provided for convenience in comparison.

**Table 10.** Polynucleotides Corresponding to Differentially Expressed Genes in Prostate Cancer Tissue

SEQ ID NO	Prostate (PT/N) >2x	Prostate (PT/N) <halfx	Prostate (PT/N) Num Ratios	Colon T/N >2x	Colon T/N <halfx	Colon T/N Num Ratios	Colon MT/N >2x	Colon MT/N <halfx	Colon MT/N Num Ratios
139	11.1	33.3	9.0	0.0	50.0	8.0			
490	37.5	12.5	8.0	0.0	71.4	7.0			
629	33.3	11.1	9.0						
644	12.5	37.5	8.0	0.0	42.9	7.0			
1674	33.3	0.0	9.0						
2346	37.5	25.0	8.0	0.0	85.7	7.0	20.0	40.0	5.0
2352	37.5	12.5	8.0	0.0	71.4	7.0	20.0	80.0	5.0
2420	22.2	33.3	9.0						
3296	33.3	0.0	9.0	0.0	37.5	8.0			

**Example 6: Antisense Regulation of Gene Expression**

**[00231]** The expression of the differentially expressed genes represented by the polynucleotides in the cancerous cells can be further analyzed using antisense knockout technology to confirm the role and function of the gene product in tumorigenesis, *e.g.*, in promoting a metastatic phenotype.

**[00232]** Methods for analysis using antisense technology are well known in the art. For example, a number of different oligonucleotides complementary to the mRNA generated by the differentially expressed genes identified herein can be designed as antisense oligonucleotides, and tested for their ability to suppress expression of the genes. Sets of antisense oligomers specific to each candidate target are designed using the sequences of the polynucleotides corresponding to a differentially expressed gene and the software program HYBsimulator Version 4 (available for Windows 95/Windows NT or for Power Macintosh, RNature, Inc. 1003 Health Sciences Road, West, Irvine, CA 92612 USA). Factors considered when designing antisense oligonucleotides include: 1) the secondary structure of oligonucleotides; 2) the secondary structure of the target gene; 3) the specificity with no or minimum cross-hybridization to other expressed genes; 4) stability; 5) length and 6) terminal GC content. The antisense oligonucleotide is designed to so that it will hybridize to its target sequence under conditions of high stringency at physiological temperatures (*e.g.*, an optimal temperature for the cells in culture to provide for hybridization in the cell, *e.g.*, about 37°C), but with minimal formation of homodimers.

**[00233]** Once synthesized and quantitated, the oligomers are screened for efficiency of a transcript knock-out in a panel of cancer cell lines. The efficiency of the knock-out is determined by analyzing mRNA levels using lightcycler quantification. The oligomers that resulted in the highest level of



transcript knock-out, wherein the level was at least about 50%, preferably about 80-90%, up to 95% or more up to undetectable message, are selected for use in a cell-based proliferation assay, an anchorage independent growth assay, and an apoptosis assay.

**[00234]** For example, where the polynucleotide is identified as having a role in colon cancer, the ability of the corresponding designed antisense oligonucleotide to inhibit gene expression is tested through transfection into SW620 colon colorectal carcinoma cells. For each transfection mixture, a carrier molecule, preferably a lipitoid or cholesterolid, is prepared to a working concentration of 0.5 mM in water, sonicated to yield a uniform solution, and filtered through a 0.45  $\mu$ m PVDF membrane. The antisense or control oligonucleotide is then prepared to a working concentration of 100  $\mu$ M in sterile Millipore water. The oligonucleotide is further diluted in OptiMEM™ (Gibco/BRL), in a microfuge tube, to 2  $\mu$ M, or approximately 20  $\mu$ g oligo/ml of OptiMEM™. In a separate microfuge tube, lipitoid or cholesterolid, typically in the amount of about 1.5-2 nmol lipitoid/ $\mu$ g antisense oligonucleotide, is diluted into the same volume of OptiMEM™ used to dilute the oligonucleotide. The diluted antisense oligonucleotide is immediately added to the diluted lipitoid and mixed by pipetting up and down. Oligonucleotide is added to the cells to a final concentration of 30 nM.

**[00235]** The level of target mRNA that corresponds to a target gene of interest in the transfected cells is quantitated in the cancer cell lines using the Roche LightCycler™ real-time PCR machine. Values for the target mRNA are normalized versus an internal control (*e.g.*, beta-actin). For each 20  $\mu$ l reaction, extracted RNA (generally 0.2-1  $\mu$ g total) is placed into a sterile 0.5 or 1.5 ml microcentrifuge tube, and water added to a total volume of 12.5  $\mu$ l. To each tube 7.5  $\mu$ l of a buffer/enzyme mixture is added, which is prepared by mixing (in the order listed) 2.5  $\mu$ l H<sub>2</sub>O, 2.0  $\mu$ l 10X reaction buffer, 10  $\mu$ l oligo dT (20 pmol), 1.0  $\mu$ l dNTP mix (10 mM each), 0.5  $\mu$ l RNAsin® (20u) (Ambion, Inc., Hialeah, FL), and 0.5  $\mu$ l MMLV reverse transcriptase (50u) (Ambion, Inc.). The contents are mixed by pipetting up and down, and the reaction mixture incubated at 42°C for 1 hour. The contents of each tube are centrifuged prior to amplification.

**[00236]** An amplification mixture is prepared by mixing in the following order: 1X PCR buffer II, 3 mM MgCl<sub>2</sub>, 140  $\mu$ M each dNTP, 0.175 pmol each oligo, 1:50,000 dil of SYBR® Green, 0.25 mg/ml BSA, 1 unit *Taq* polymerase, and H<sub>2</sub>O to 20  $\mu$ l. (PCR buffer II is available in 10X concentration from Perkin-Elmer, Norwalk, CT). In 1X concentration it contains 10 mM Tris pH 8.3 and 50 mM KCl. SYBR® Green (Molecular Probes, Eugene, OR) is a dye which fluoresces when bound to double stranded DNA. As double stranded PCR product is produced during amplification, the fluorescence from SYBR® Green increases. To each 20  $\mu$ l aliquot of amplification mixture, 2  $\mu$ l of template RT are added, and amplification carried out according to standard protocols.

[00237] The results can be expressed as the percent decrease in expression of the corresponding gene product relative to non-transfected cells, vehicle-only transfected (mock-transfected) cells, or cells transfected with reverse control oligonucleotides.

Example 7: Effect of Expression on Proliferation

[00238] The effect of gene expression on the inhibition of cell proliferation can be assessed in, for example, metastatic breast cancer cell lines (MDA-MB-231 ("231")), SW620 colon colorectal carcinoma cells, or SKOV3 cells (a human ovarian carcinoma cell line).

[00239] Cells are plated to approximately 60-80% confluency in 96-well dishes. Antisense or reverse control oligonucleotide is diluted to 2  $\mu$ M in OptiMEM™ and added to OptiMEM™ into which the delivery vehicle, lipitoid 116-6 in the case of SW620 cells or 1:1 lipitoid 1:cholesteroid 1 in the case of MDA-MB-231 cells, had been diluted. The oligo/delivery vehicle mixture is then further diluted into medium with serum on the cells. The final concentration of oligonucleotide for all experiments was 300 nM, and the final ratio of oligo to delivery vehicle for all experiments is 1.5 nmol lipitoid/ $\mu$ g oligonucleotide.

[00240] Antisense oligonucleotides are prepared as described above (see Example 6). Cells are transfected overnight at 37°C and the transfection mixture replaced with fresh medium the next morning. Transfection is carried out as described above in Example 3.

[00241] Those antisense oligonucleotides that inhibit proliferation represent genes that play a role in production or maintenance of the cancerous phenotype.

Example 8: Effect of Gene Expression on Colony Formation

[00242] The effect of gene expression upon colony formation of, for example, SW620 cells, SKOV3 cells, and MD-MBA-231 cells can be tested in a soft agar assay. Soft agar assays are conducted by first establishing a bottom layer of 2 ml of 0.6% agar in media plated fresh within a few hours of layering on the cells. The cell layer is formed on the bottom layer by removing cells transfected as described above from plates using 0.05% trypsin and washing twice in media. The cells are counted in a Coulter counter, and resuspended to  $10^6$  per ml in media. 10  $\mu$ l aliquots are placed with media in 96-well plates (to check counting with WST1), or diluted further for the soft agar assay. 2000 cells are plated in 800  $\mu$ l 0.4% agar in duplicate wells above 0.6% agar bottom layer. After the cell layer agar solidifies, 2 ml of media is dribbled on top and antisense or reverse control oligo (produced as described in Example 6) added without delivery vehicles. Fresh media and oligos are added every 3-4 days. Colonies usually are expected to form in 10 days to 3 weeks. Fields of colonies

are counted by eye. Wst-1 metabolism values can be used to compensate for small differences in starting cell number. Larger fields can be scanned for visual record of differences.

**[00243]** Those antisense oligonucleotides that inhibited colony formation represent genes that play a role in production or maintenance of the cancerous phenotype.

**Example 9: Induction of Cell Death upon Depletion of Polypeptides by Depletion of mRNA ("Antisense Knockout")**

**[00244]** In order to assess the effect of depletion of a target message upon cell death, SW620 cells, or other cells derived from a cancer of interest, are transfected for proliferation assays. For cytotoxic effect in the presence of cisplatin (cis), the same protocol is followed but cells are left in the presence of 2  $\mu$ M drug. Each day, cytotoxicity was monitored by measuring the amount of LDH enzyme released in the medium due to membrane damage. The activity of LDH is measured using the Cytotoxicity Detection Kit from Roche Molecular Biochemicals. The data is provided as a ratio of LDH released in the medium vs. the total LDH present in the well at the same time point and treatment (rLDH/tLDH). A positive control using antisense and reverse control oligonucleotides for BCL2 (a known anti-apoptotic gene) is included; loss of message for BCL2 leads to an increase in cell death compared with treatment with the control oligonucleotide (background cytotoxicity due to transfection).

**Example 10: Functional Analysis of Gene Products Differentially Expressed in Cancer**

**[00245]** The gene products of sequences of a gene differentially expressed in cancerous cells can be further analyzed to confirm the role and function of the gene product in tumorigenesis, *e.g.*, in promoting or inhibiting development of a metastatic phenotype. For example, the function of gene products corresponding to genes identified herein can be assessed by blocking function of the gene products in the cell. For example, where the gene product is secreted or associated with a cell surface membrane, blocking antibodies can be generated and added to cells to examine the effect upon the cell phenotype in the context of, for example, the transformation of the cell to a cancerous, particularly a metastatic, phenotype.

**[00246]** Where the gene product of the differentially expressed genes identified herein exhibits sequence homology to a protein of known function (*e.g.*, to a specific kinase or protease) and/or to a protein family of known function (*e.g.*, contains a domain or other consensus sequence present in a protease family or in a kinase family), then the role of the gene product in tumorigenesis, as well as the activity of the gene product, can be examined using small molecules that inhibit or enhance function of the corresponding protein or protein family.

[00247] Additional functional assays include, but are not necessarily limited to, those that analyze the effect of expression of the corresponding gene upon cell cycle and cell migration. Methods for performing such assays are well known in the art.

Example 11: Contig Assembly and Additional Gene Characterization

[00248] The sequences of the polynucleotides provided in the present invention can be used to extend the sequence information of the gene to which the polynucleotides correspond (*e.g.*, a gene, or mRNA encoded by the gene, having a sequence of the polynucleotide described herein). This expanded sequence information can in turn be used to further characterize the corresponding gene, which in turn provides additional information about the nature of the gene product (*e.g.*, the normal function of the gene product). The additional information can serve to provide additional evidence of the gene product's use as a therapeutic target, and provide further guidance as to the types of agents that can modulate its activity.

[00249] For example, a contig can be assembled using the sequence of a polynucleotide described herein. A "contig" is a contiguous sequence of nucleotides that is assembled from nucleic acid sequences having overlapping (*e.g.*, shared or substantially similar) sequence information. The sequences of publicly-available ESTs (Expressed Sequence Tags) and the sequences of various clones from several cDNA libraries synthesized at Chiron were used in the contig assembly. The contig is assembled using the software program Sequencher, version 4.05, according to the manufacturer's instructions. The resulting contig can then be used to search both the public databases as well as databases internal to the applicatns to match the polynucleotide contiged with homology data and/or differential gene expressed data.

[00250] The sequence information obtained in the contig assembly described above can be used to obtain a consensus sequence derived from the contig using the Sequencher program. The consensus sequence can then be used as a query sequence in a BLASTN search of the DGTI DoubleTwist Gene Index (DoubleTwist, Inc., Oakland, CA), which contains all the EST and non-redundant sequence in public databases. Alternatively, a sequence of a polynucleotide described herein can be used directly as a query sequence in a BLASTN search of the DGTI DoubleTwist Gene Index.

[00251] Through contig assembly and the use of homology searching software programs, the sequence information provided herein can be readily extended to confirm, or confirm a predicted, gene having the sequence of the polynucleotides described in the present invention. Further the information obtained can be used to identify the function of the gene product of the gene corresponding to the polynucleotides described herein. While not necessary to the practice of the invention, identification of the function of the corresponding gene, can provide guidance in the design of therapeutics that target

the gene to modulate its activity and modulate the cancerous phenotype (*e.g.*, inhibit metastasis, proliferation, and the like).

**[00252]** Although the foregoing invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is readily apparent to those of ordinary skill in the art in light of the teachings of this invention that certain changes and modifications may be made thereto without departing from the spirit or scope of the appended claims. Those skilled in the art will recognize, or be able to ascertain, using not more than routine experimentation, many equivalents to the specific embodiments of the invention described herein. Such specific embodiments and equivalents are intended to be encompassed by the following claims.

Deposit Information.

**[00253]** A deposit of the biological materials in the tables referenced below was made with the American Type Culture Collection, 10801 University Blvd., Manassas, VA 20110-2209, under the provisions of the Budapest Treaty, on or before the filing date of the present application. The accession number indicated is assigned after successful viability testing, and the requisite fees were paid. Access to said cultures will be available during pendency of the patent application to one determined by the Commissioner to be entitled to such under 37 C.F.R. §1.14 and 35 U.S.C. §122. All restriction on availability of said cultures to the public will be irrevocably removed upon the granting of a patent based upon the application. Moreover, the designated deposits will be maintained for a period of thirty (30) years from the date of deposit, or for five (5) years after the last request for the deposit; or for the enforceable life of the U.S. patent, whichever is longer. Should a culture become nonviable or be inadvertently destroyed, or, in the case of plasmid-containing strains, lose its plasmid, it will be replaced with a viable culture(s) of the same taxonomic description.

**[00254]** These deposits are provided merely as a convenience to those of skill in the art, and are not an admission that a deposit is required. A license may be required to make, use, or sell the deposited materials, and no such license is hereby granted. The deposit below was received by the ATCC on or before the filing date of the present application.

**Table 11. Cell Lines Deposited with ATCC**

Cell Line	Deposit Date	ATCC Accession No.	CMCC Accession No.
KM12L4-A	March 19, 1998	CRL-12496	11606
Km12C	May 15, 1998	CRL-12533	11611
MDA-MB-231	May 15, 1998	CRL-12532	10583
MCF-7	October 9, 1998	CRL-12584	10377

**[00255]** In addition, pools of selected clones, as well as libraries containing specific clones, were assigned an "ES" number (internal reference) and deposited with the ATCC. Table 13 below provides the ATCC Accession Nos. of the ES deposits, all of which were deposited on or before June 13, 2000.

**Table 12: Pools of Clones and Libraries Deposited with ATCC on or before June 13, 2000.**

Library No.	CMCC No.	ATCC Accession No.	Library No.	CMCC No.	ATCC Accession No.
ES168	5276	PTA-2027	ES 189	5304	PTA-2052
ES169	5277	PTA-2028	ES 190	5305	PTA-2053
ES170	5284	PTA-2029	ES 191	5306	PTA-2054
ES171	5285	PTA-2030	ES 192	5307	PTA-2055
ES172	5286	PTA-2031	ES 193	5308	PTA-2056
ES173	5287	PTA-2032	ES 194	5309	PTA-2057
ES174	5288	PTA-2033	ES 195	5310	PTA-2058
ES175	5289	PTA-2034	ES 196	5311	PTA-2059
ES176	5290	PTA-2035	ES 197	5312	PTA-2060
ES177	5291	PTA-2036	ES 198	5313	PTA-2061
ES178	5292	PTA-2037	ES 199	5314	PTA-2062
ES179	5293	PTA-2038	ES 200	5315	PTA-2048
ES180	5294	PTA-2039	ES 201	5316	PTA-2049
ES181	5295	PTA-2040	ES 202	5317	PTA-2063
ES182	5296	PTA-2041	ES 203	5318	PTA-2064
ES183	5297	PTA-2042	ES 204	5319	PTA-2065
ES184	5298	PTA-2043	ES 205	5320	PTA-2066
ES185	5299	PTA-2044	ES 206	5321	PTA-2067
ES 186	5301	PTA-2045	ES 207	5322	PTA-2068
ES 187	5302	PTA-2046	ES 208	5253	PTA-2050
ES 188	5303	PTA-2047	ES 209	5324	PTA-2051

**[00256]** Table 13 (inserted before the claims) provides the clones in each of the above libraries.

**[00257]** Retrieval of Individual Clones from Deposit of Pooled Clones. Where the ATCC deposit is composed of a pool of cDNA clones or a library of cDNA clones, the deposit was prepared by first transfecting each of the clones into separate bacterial cells. The clones in the pool or library were then deposited as a pool of equal mixtures in the composite deposit. Particular clones can be obtained from the composite deposit using methods well known in the art. For example, a bacterial cell containing a particular clone can be identified by isolating single colonies, and identifying colonies containing the specific clone through standard colony hybridization techniques, using an oligonucleotide probe or probes designed to specifically hybridize to a sequence of the clone insert (*e.g.*, a probe based upon unmasked sequence of the encoded polynucleotide having the indicated SEQ ID NO). The probe should be designed to have a  $T_m$  of approximately 80°C (assuming 2°C for each A or T and 4°C for each G or C). Positive colonies can then be picked, grown in culture, and the recombinant clone isolated. Alternatively, probes designed in this manner can be used to PCR to isolate a nucleic acid molecule from the pooled clones according to methods well known in the art, *e.g.*, by purifying the cDNA from the deposited culture pool, and using the probes in PCR reactions to produce an amplified product having the corresponding desired polynucleotide sequence.

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1	498509	2102.H02.gz43_275066	F	M00063514B:E04	GRRpz
2	644927	2102.F08.gz43_275160	F	M00063493D:G07	GRRpz
3	621081	2102.G10.gz43_275193	F	M00063507B:B08	GRRpz
4	558900	2102.F14.gz43_275256	F	M00063496B:F07	GRRpz
5	464791	2102.A16.gz43_275283	F	M00063157B:B09	GRRpz
6	558147	2102.B18.gz43_275316	F	M00063457A:B12	GRRpz
7	379154	2102.I24.gz43_275419	F	M00063601D:C05	GRRpz
8	643609	2103.F01.gz43_275432	F	M00063866B:H02	GRRpz
9	377696	2103.M06.gz43_275519	F	M00063943B:G12	GRRpz
10	554395	2103.K10.gz43_275581	F	M00063927A:B08	GRRpz
11	402353	2103.B13.gz43_275620	F	M00063803B:F11	GRRpz
12	380514	2103.E17.gz43_275687	F	M00063864A:H10	GRRpz
13	147279	2103.J21.gz43_275756	F	M00063923B:A04	GRRpz
14	884	2128.K06.gz43_277507	F	M00028627B:F12	MV-522
15	188377	2128.H15.gz43_277648	F	M00028359D:F09	MV-522
16	155615	2128.P17.gz43_277688	F	M00032476D:F07	MV-522
17	125604	2128.P18.gz43_277704	F	M00032477A:B02	MV-522
18	432159	2128.A24.gz43_277785	F	M00028061D:D10	MV-522
19	429735	2130.N02.gz43_277847	F	M00032736A:B06	MV-522
20	72838	2130.O05.gz43_277896	F	M00032745C:F03	MV-522
21	436888	2130.N09.gz43_277959	F	M00032738D:G11	MV-522
22	427571	2130.H13.gz43_278017	F	M00032685B:C10	MV-522
23	38494	2130.H16.gz43_278065	F	M00032686C:D10	MV-522
24	78607	2130.H18.gz43_278097	F	M00032686D:G09	MV-522
25	90192	2130.J18.gz43_278099	F	M00032703D:E10	MV-522
26	44615	2130.I20.gz43_278130	F	M00032695B:A01	MV-522
27	376753	2130.M21.gz43_278150	F	M00032732A:A03	MV-522
28	6342	2152.H10.gz43_278370	F	M00039109A:H09	UCP-3
29	387530	2152.D12.gz43_278398	F	M00039069D:E12	UCP-3
30	36453	2152.B14.gz43_278428	F	M00039052B:H03	UCP-3
31	376044	2152.A18.gz43_278491	F	M00039047C:A05	UCP-3
32	375415	2152.J18.gz43_278500	F	M00039121C:C06	UCP-3
33	375706	2153.F03.gz43_278756	F	M00039222C:G06	UCP-3
34	379046	2153.J06.gz43_278808	F	M00039244C:F10	UCP-3
35	390017	2153.I08.gz43_278839	F	M00039240A:H08	UCP-3
36	377596	2153.O08.gz43_278845	F	M00039274C:D12	UCP-3
37	376384	2153.I11.gz43_278887	F	M00039241A:H11	UCP-3
38	372952	2153.K14.gz43_278937	F	M00039251A:G12	UCP-3
39	377696	2154.M04.gz43_279163	F	M00039404B:G11	UCP-3
40	60037	2154.G05.gz43_279173	F	M00039330B:H09	UCP-3
41	390968	2154.I18.gz43_279383	F	M00039346C:G08	UCP-3
42	376044	2154.G21.gz43_279429	F	M00039336A:C07	UCP-3

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
43	60037	2155.J03.gz43_279528	F	M00039632A:C01	UCP-3
44	376839	2155.N05.gz43_279564	F	M00039664B:H10	UCP-3
45	373680	2155.P11.gz43_279662	F	M00039674B:G11	UCP-3
46	373973	2155.C12.gz43_279665	F	M00039457A:D07	UCP-3
47	379805	2155.N15.gz43_279724	F	M00039665C:B01	UCP-3
48	376439	2155.F16.gz43_279732	F	M00039479A:A10	UCP-3
49	376994	2155.I16.gz43_279735	F	M00039619C:B01	UCP-3
50	378420	2155.B21.gz43_279808	F	M00039451B:F01	UCP-3
51	375510	2155.F21.gz43_279812	F	M00039479D:C06	UCP-3
52	24210	2155.P22.gz43_279838	F	M00039675C:C05	UCP-3
53	397167	2164.J03.gz43_279912	F	M00039778D:D05	UCP-3
54	380025	2164.I10.gz43_280023	F	M00039774A:E11	UCP-3
55	216179	2164.P10.gz43_280030	F	M00039823D:D09	UCP-3
56	379046	2164.B15.gz43_280096	F	M00039681B:F05	UCP-3
57	379279	2164.A24.gz43_280239	F	M00039679C:A02	UCP-3
58	376074	2164.O24.gz43_280253	F	M00039820D:F08	UCP-3
59	373905	2165.H01.gz43_280262	F	M00039883D:G06	UCP-3
60	1300	2165.K01.gz43_280265	F	M00039905B:F09	UCP-3
61	393635	2165.H06.gz43_280342	F	M00039885B:A10	UCP-3
62	396969	2165.P07.gz43_280366	F	M00039978D:C04	UCP-3
63	398061	2165.F09.gz43_280388	F	M00039871C:C01	UCP-3
64	376808	2165.I10.gz43_280407	F	M00039893A:G12	UCP-3
65	6342	2166.A06.gz43_281279	F	M00039986B:A11	UCP-3
66	233814	2166.K07.gz43_281305	F	M00040076B:D01	UCP-3
67	24210	2166.N07.gz43_281308	F	M00040096D:C03	UCP-3
68	24210	2166.A11.gz43_281359	F	M00039988B:C08	UCP-3
69	377696	2166.J11.gz43_281368	F	M00040070C:D11	UCP-3
70	398831	2166.A23.gz43_281551	F	M00040001A:H02	UCP-3
71	185432	2166.P24.gz43_281582	F	M00040113C:H09	UCP-3
72	505275	2104.D01.gz43_297323	F	M00064082C:D11	GRRpz
73	11379	2104.N01.gz43_297333	F	M00064194B:A02	GRRpz
74	446397	2104.N03.gz43_297365	F	M00064195C:B02	GRRpz
75	418763	2104.P04.gz43_297383	F	M00064220B:E01	GRRpz
76	469367	2104.N05.gz43_297397	F	M00064196D:C10	GRRpz
77	639578	2104.C08.gz43_297434	F	M00064077B:H02	GRRpz
78	376559	2104.E08.gz43_297436	F	M00064101B:E12	GRRpz
79	649035	2104.D11.gz43_297483	F	M00064085B:A12	GRRpz
80	647586	2104.H11.gz43_297487	F	M00064131B:A09	GRRpz
81	646187	2104.F12.gz43_297501	F	M00064112A:G03	GRRpz
82	727888	2104.N13.gz43_297525	F	M00064201A:C08	GRRpz
83	558382	2104.E17.gz43_297580	F	M00064104B:A01	GRRpz
84	52644	2104.C19.gz43_297610	F	M00064081A:D04	GRRpz



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
85	454622	2104.I20.gz43_297632	F	M00064147B:G08	GRRpz
86	554032	2104.A21.gz43_297640	F	M00064064D:D11	GRRpz
87	463217	2104.E23.gz43_297676	F	M00064107C:E03	GRRpz
88	189073	1521.H06.gz43_303496	F	M00027103D:B05	MCF-7
89	188309	1521.J06.gz43_303498	F	M00027219B:G12	MCF-7
90	187525	1521.N10.gz43_303566	F	M00027514C:F01	MCF-7
91	215366	1521.N12.gz43_303598	F	M00027517C:F08	MCF-7
92	186594	1521.H13.gz43_303608	F	M00027123D:F02	MCF-7
93	218904	1521.O13.gz43_303615	F	M00027586B:B03	MCF-7
94	189993	1521.C14.gz43_303619	F	M00023406A:G03	MCF-7
95	222818	1521.H14.gz43_303624	F	M00027126C:H05	MCF-7
96	185056	1521.O16.gz43_303663	F	M00027587C:F02	MCF-7
97	186404	1521.P20.gz43_303728	F	M00027694C:C11	MCF-7
98	649744	2116.I06.gz43_306217	F	M00063580A:A07	WOca
99	535955	2116.P08.gz43_306256	F	M00063994B:D10	WOca
100	375328	2116.J09.gz43_306266	F	M00063592B:E09	WOca
101	449206	2116.A13.gz43_306321	F	M00063165C:F10	WOca
102	89082	2116.E15.gz43_306357	F	M00063552B:B06	WOca
103	730600	2116.D21.gz43_306452	F	M00063546B:F01	WOca
104	372621	2116.O22.gz43_306479	F	M00063988A:C02	WOca
105	416886	2117.M03.gz43_306557	F	M00064394A:C02	WOca
106	372621	2117.D05.gz43_306580	F	M00064307C:E12	WOca
107	644919	2118.N03.gz43_306942	F	M00064601C:H06	WOca
108	446397	2118.A09.gz43_307025	F	M00064446D:C08	WOca
109	177443	2118.M09.gz43_307037	F	M00064592D:F05	WOca
110	730238	2118.H24.gz43_307272	F	M00064534D:H04	WOca
111	427907	2131.A01.gz43_307885	F	M00032766A:A10	MV-522
112	48238	2131.M02.gz43_307913	F	M00032886A:D04	MV-522
113	226324	2131.B04.gz43_307934	F	M00032783A:H08	MV-522
114	441801	2131.E06.gz43_307969	F	M00032809B:E10	MV-522
115	62016	2131.K11.gz43_308055	F	M00032872B:A02	MV-522
116	48238	2131.E12.gz43_308065	F	M00032811A:G10	MV-522
117	34071	2131.I13.gz43_308085	F	M00032857A:B02	MV-522
118	221686	2131.B14.gz43_308094	F	M00032786A:H04	MV-522
119	440284	2131.J16.gz43_308134	F	M00032865A:D11	MV-522
120	12481	2131.P18.gz43_308172	F	M00032914B:D09	MV-522
121	20453	2131.A19.gz43_308173	F	M00032779A:A04	MV-522
122	26926	2131.I19.gz43_308181	F	M00032858D:H11	MV-522
123	37805	2131.P19.gz43_308188	F	M00032915B:D01	MV-522
124	441874	2131.I21.gz43_308213	F	M00032859C:E04	MV-522
125	48238	2131.A23.gz43_308237	F	M00032780A:B09	MV-522
126	169458	1513.O03.gz43_300292	F	M00022648C:D08	MDA-MB-231

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
127	145815	1513.F09.gz43_300379	F	M00022135D:D06	MDA-MB-231
128	158321	1513.H09.gz43_300381	F	M00022255B:F12	MDA-MB-231
129	168195	1513.L10.gz43_300401	F	M00022537D:C05	MDA-MB-231
130	101499	1513.J13.gz43_300447	F	M00022445D:E12	MDA-MB-231
131	142842	1513.A14.gz43_300454	F	M00007960D:E09	MDA-MB-231
132	153316	1513.E14.gz43_300458	F	M00022072A:E12	MDA-MB-231
133	142614	1513.A15.gz43_300470	F	M00007963D:D03	MDA-MB-231
134	99011	1513.N16.gz43_300499	F	M00022622A:G01	MDA-MB-231
135	171073	1513.P18.gz43_300533	F	M00022710C:H03	MDA-MB-231
136	120049	1513.D19.gz43_300537	F	M00021925A:H07	MDA-MB-231
137	446572	1562.B01.gz43_207804	F	M00042546A:D03	UC2-NormColon
138	464091	1562.F01.gz43_207808	F	M00042552D:A11	UC2-NormColon
139	408386	1562.J01.gz43_207812	F	M00042560B:A01	UC2-NormColon
140	446829	1562.L02.gz43_207830	F	M00042563A:F10	UC2-NormColon
141	43338	1562.P03.gz43_207850	F	M00042569B:G07	UC2-NormColon
142	451780	1562.F04.gz43_207856	F	M00042554A:C02	UC2-NormColon
143	456462	1562.J04.gz43_207860	F	M00042560B:G10	UC2-NormColon
144	469511	1562.G05.gz43_207873	F	M00042555D:G10	UC2-NormColon
145	455075	1562.H05.gz43_207874	F	M00042557A:D09	UC2-NormColon
146	447346	1562.P05.gz43_207882	F	M00042569C:B05	UC2-NormColon
147	147196	1562.M06.gz43_207895	F	M00042564D:F10	UC2-NormColon
148	467262	1562.F08.gz43_207920	F	M00042554C:E02	UC2-NormColon
149	459536	1562.L09.gz43_207942	F	M00042563C:D08	UC2-NormColon
150	460190	1562.P09.gz43_207946	F	M00042569D:D02	UC2-NormColon
151	447597	1562.F10.gz43_207952	F	M00042554C:F09	UC2-NormColon
152	451737	1562.G10.gz43_207953	F	M00042556A:G12	UC2-NormColon
153	446614	1562.L10.gz43_207958	F	M00042563C:E02	UC2-NormColon
154	432159	1562.M10.gz43_207959	F	M00042565A:G05	UC2-NormColon
155	459523	1562.L11.gz43_207974	F	M00042563D:D02	UC2-NormColon
156	460516	1562.P11.gz43_207978	F	M00042570A:E08	UC2-NormColon
157	446674	1562.D12.gz43_207982	F	M00042550A:D12	UC2-NormColon
158	465594	1562.F12.gz43_207984	F	M00042554D:C08	UC2-NormColon
159	466719	1562.G12.gz43_207985	F	M00042556B:D12	UC2-NormColon
160	463487	1562.M12.gz43_207991	F	M00042565A:H03	UC2-NormColon
161	446389	1562.B13.gz43_207996	F	M00042546D:E06	UC2-NormColon
162	462149	1562.C14.gz43_208013	F	M00042548B:G01	UC2-NormColon
163	447174	1562.G14.gz43_208017	F	M00042556B:E10	UC2-NormColon
164	457405	1562.K14.gz43_208021	F	M00042562C:A07	UC2-NormColon
165	460766	1562.O15.gz43_208041	F	M00042568C:E08	UC2-NormColon
166	446703	1562.N16.gz43_208056	F	M00042567C:E02	UC2-NormColon
167	446981	1562.D18.gz43_208078	F	M00042550C:H10	UC2-NormColon
168	387077	1562.H18.gz43_208082	F	M00042558A:D03	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
169	460972	1562.N18.gz43_208088	F	M00042567C:E07	UC2-NormColon
170	417078	1562.P18.gz43_208090	F	M00042570B:F11	UC2-NormColon
171	461559	1562.L19.gz43_208102	F	M00042564A:F01	UC2-NormColon
172	464905	1562.F20.gz43_208112	F	M00042555B:B07	UC2-NormColon
173	468330	1562.H20.gz43_208114	F	M00042558A:F11	UC2-NormColon
174	446620	1562.J21.gz43_208132	F	M00042561B:E12	UC2-NormColon
175	457842	1562.P21.gz43_208138	F	M00042570C:B12	UC2-NormColon
176	446531	1562.B22.gz43_208140	F	M00042547B:D11	UC2-NormColon
177	446621	1562.J24.gz43_208180	F	M00042561C:E12	UC2-NormColon
178	380127	1562.N24.gz43_208184	F	M00042567D:E12	UC2-NormColon
179	464275	1563.D01.gz43_208190	F	M00042575D:A11	UC2-NormColon
180	456920	1563.C04.gz43_208237	F	M00042574C:A04	UC2-NormColon
181	466971	1563.B05.gz43_208252	F	M00042573A:D05	UC2-NormColon
182	142559	1563.J05.gz43_208260	F	M00042698A:A01	UC2-NormColon
183	457890	1563.G08.gz43_208305	F	M00042691D:B03	UC2-NormColon
184	453605	1563.K08.gz43_208309	F	M00042699C:H06	UC2-NormColon
185	465339	1563.N08.gz43_208312	F	M00042705A:B07	UC2-NormColon
186	461734	1563.I09.gz43_208323	F	M00042695C:F05	UC2-NormColon
187	459961	1563.D12.gz43_208366	F	M00042576B:D11	UC2-NormColon
188	463951	1563.F13.gz43_208384	F	M00042580C:A03	UC2-NormColon
189	468783	1563.A14.gz43_208395	F	M00042571C:F03	UC2-NormColon
190	447597	1563.E14.gz43_208399	F	M00042578A:E08	UC2-NormColon
191	463368	1563.I14.gz43_208403	F	M00042695D:H01	UC2-NormColon
192	451383	1563.C15.gz43_208413	F	M00042575A:E02	UC2-NormColon
193	467293	1563.G16.gz43_208433	F	M00042692A:E11	UC2-NormColon
194	446922	1563.O16.gz43_208441	F	M00042707C:A09	UC2-NormColon
195	446213	1563.D17.gz43_208446	F	M00042576D:A08	UC2-NormColon
196	460244	1563.F19.gz43_208480	F	M00042691A:D08	UC2-NormColon
197	460789	1563.A20.gz43_208491	F	M00042572B:E05	UC2-NormColon
198	451382	1563.C20.gz43_208493	F	M00042575B:F02	UC2-NormColon
199	468109	1563.K20.gz43_208501	F	M00042700C:F11	UC2-NormColon
200	447326	1563.L20.gz43_208502	F	M00042702B:B07	UC2-NormColon
201	463896	1563.B21.gz43_208508	F	M00042573D:A10	UC2-NormColon
202	446839	1563.D21.gz43_208510	F	M00042576D:F01	UC2-NormColon
203	446933	1563.E22.gz43_208527	F	M00042579A:B05	UC2-NormColon
204	447826	1563.L22.gz43_208534	F	M00042702B:G07	UC2-NormColon
205	446409	1563.B23.gz43_208540	F	M00042574A:F05	UC2-NormColon
206	453908	1573.N01.gz43_208584	F	M00042895C:C10	UC2-NormColon
207	447421	1573.D02.gz43_208590	F	M00042747D:C08	UC2-NormColon
208	447141	1573.P02.gz43_208602	F	M00042898A:H05	UC2-NormColon
209	447645	1573.E04.gz43_208623	F	M00042750D:E07	UC2-NormColon
210	401426	1573.K06.gz43_208661	F	M00042890D:G05	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
211	466894	1573.B07.gz43_208668	F	M00042744A:D11	UC2-NormColon
212	447161	1573.J08.gz43_208692	F	M00042889D:A01	UC2-NormColon
213	633946	1573.M08.gz43_208695	F	M00042894B:E05	UC2-NormColon
214	557974	1573.L09.gz43_208710	F	M00042892C:E03	UC2-NormColon
215	466920	1573.D10.gz43_208718	F	M00042748D:D08	UC2-NormColon
216	642146	1573.F10.gz43_208720	F	M00042882C:F06	UC2-NormColon
217	464205	1573.J10.gz43_208724	F	M00042889D:A12	UC2-NormColon
218	641890	1573.L10.gz43_208726	F	M00042892D:C04	UC2-NormColon
219	650195	1573.H11.gz43_208738	F	M00042886C:F01	UC2-NormColon
220	467293	1573.F12.gz43_208752	F	M00042882C:G07	UC2-NormColon
221	650756	1573.N12.gz43_208760	F	M00042896A:D04	UC2-NormColon
222	452611	1573.N13.gz43_208776	F	M00042896A:E03	UC2-NormColon
223	650944	1573.N14.gz43_208792	F	M00042896A:F09	UC2-NormColon
224	639372	1573.E15.gz43_208799	F	M00042881C:C11	UC2-NormColon
225	645690	1573.F15.gz43_208800	F	M00042882D:C04	UC2-NormColon
226	645470	1573.H16.gz43_208818	F	M00042886D:E10	UC2-NormColon
227	651029	1573.M17.gz43_208839	F	M00042894D:G05	UC2-NormColon
228	639849	1573.F18.gz43_208848	F	M00042883A:F06	UC2-NormColon
229	486238	1573.K19.gz43_208869	F	M00042891C:H01	UC2-NormColon
230	463060	1573.G21.gz43_208897	F	M00042885A:G09	UC2-NormColon
231	469150	1573.C22.gz43_208909	F	M00042747A:G12	UC2-NormColon
232	472101	1574.O01.gz43_208969	F	M00054797D:F01	UC2-NormColon
233	641875	1574.P02.gz43_208986	F	M00054799C:G11	UC2-NormColon
234	465104	1574.A03.gz43_208987	F	M00042900B:B10	UC2-NormColon
235	470641	1574.C03.gz43_208989	F	M00042904A:H10	UC2-NormColon
236	451624	1574.D04.gz43_209006	F	M00042906C:A10	UC2-NormColon
237	639391	1574.N04.gz43_209016	F	M00054796B:A01	UC2-NormColon
238	470462	1574.B05.gz43_209020	F	M00042902B:H01	UC2-NormColon
239	482043	1574.J05.gz43_209028	F	M00042915A:E06	UC2-NormColon
240	641525	1574.N05.gz43_209032	F	M00054796B:C08	UC2-NormColon
241	642691	1574.E06.gz43_209039	F	M00042908A:B01	UC2-NormColon
242	466697	1574.G06.gz43_209041	F	M00042910D:A02	UC2-NormColon
243	649965	1574.H06.gz43_209042	F	M00042912A:C01	UC2-NormColon
244	651051	1574.J06.gz43_209044	F	M00042915A:G10	UC2-NormColon
245	450506	1574.M06.gz43_209047	F	M00054794C:G11	UC2-NormColon
246	453572	1574.O06.gz43_209049	F	M00054798B:A01	UC2-NormColon
247	447660	1574.B07.gz43_209052	F	M00042902C:E11	UC2-NormColon
248	447147	1574.C07.gz43_209053	F	M00042905A:A07	UC2-NormColon
249	647639	1574.F07.gz43_209056	F	M00042909B:C04	UC2-NormColon
250	649965	1574.G08.gz43_209073	F	M00042910D:E11	UC2-NormColon
251	639371	1574.I09.gz43_209091	F	M00042914A:B05	UC2-NormColon
252	474298	1574.M09.gz43_209095	F	M00054794D:D02	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
253	646568	1574.M10.gz43_209111	F	M00054794D:D08	UC2-NormColon
254	639787	1574.P10.gz43_209114	F	M00054800B:C06	UC2-NormColon
255	447750	1574.A11.gz43_209115	F	M00042901A:F12	UC2-NormColon
256	649810	1574.G11.gz43_209121	F	M00042911A:A02	UC2-NormColon
257	645924	1574.H11.gz43_209122	F	M00042912B:F11	UC2-NormColon
258	413767	1574.L11.gz43_209126	F	M00054793C:D11	UC2-NormColon
259	641069	1574.E12.gz43_209135	F	M00042908B:A11	UC2-NormColon
260	649900	1574.G12.gz43_209137	F	M00042911A:B02	UC2-NormColon
261	560868	1574.J12.gz43_209140	F	M00042915C:E05	UC2-NormColon
262	513262	1574.P12.gz43_209146	F	M00054800B:C11	UC2-NormColon
263	640306	1574.L13.gz43_209158	F	M00054793D:H11	UC2-NormColon
264	389591	1574.A14.gz43_209163	F	M00042901A:H11	UC2-NormColon
265	447815	1574.C14.gz43_209165	F	M00042905C:G08	UC2-NormColon
266	95617	1574.D14.gz43_209166	F	M00042907A:B11	UC2-NormColon
267	465984	1574.B15.gz43_209180	F	M00042903B:C09	UC2-NormColon
268	447692	1574.D15.gz43_209182	F	M00042907A:F03	UC2-NormColon
269	641029	1574.G15.gz43_209185	F	M00042911A:D04	UC2-NormColon
270	650527	1574.J15.gz43_209188	F	M00042915D:A11	UC2-NormColon
271	641315	1574.O15.gz43_209193	F	M00054798D:A12	UC2-NormColon
272	474298	1574.P15.gz43_209194	F	M00054800B:E08	UC2-NormColon
273	645954	1574.H16.gz43_209202	F	M00042912D:H08	UC2-NormColon
274	640181	1574.M16.gz43_209207	F	M00054795A:A08	UC2-NormColon
275	650235	1574.F17.gz43_209216	F	M00042909C:F10	UC2-NormColon
276	640356	1574.H17.gz43_209218	F	M00042912D:H10	UC2-NormColon
277	649744	1574.E18.gz43_209231	F	M00042908C:A03	UC2-NormColon
278	650564	1574.F18.gz43_209232	F	M00042909D:B11	UC2-NormColon
279	527355	1574.G18.gz43_209233	F	M00042911A:H12	UC2-NormColon
280	452989	1574.H18.gz43_209234	F	M00042913A:D09	UC2-NormColon
281	648159	1574.K18.gz43_209237	F	M00054792B:A03	UC2-NormColon
282	714629	1574.E20.gz43_209263	F	M00042908C:D12	UC2-NormColon
283	467364	1574.I20.gz43_209267	F	M00042914B:H03	UC2-NormColon
284	644789	1574.N20.gz43_209272	F	M00054797C:F03	UC2-NormColon
285	646404	1574.J21.gz43_209284	F	M00054791A:G04	UC2-NormColon
286	639740	1574.H22.gz43_209298	F	M00042913B:E10	UC2-NormColon
287	649852	1574.I22.gz43_209299	F	M00042914D:B10	UC2-NormColon
288	644376	1574.G23.gz43_209313	F	M00042911B:H08	UC2-NormColon
289	639901	1574.P23.gz43_209322	F	M00054800D:D08	UC2-NormColon
290	647086	1574.E24.gz43_209327	F	M00042908D:G12	UC2-NormColon
291	562247	1574.G24.gz43_209329	F	M00042911C:D01	UC2-NormColon
292	446974	1574.J24.gz43_209332	F	M00054791B:C09	UC2-NormColon
293	513248	1575.A01.gz43_209339	F	M00054800D:F08	UC2-NormColon
294	467989	1575.M01.gz43_209351	F	M00055429B:B12	UC2-NormColon

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SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
295	650184	1575.N01.gz43_209352	F	M00055430D:F04	UC2-NormColon
296	649872	1575.E02.gz43_209359	F	M00054916A:A05	UC2-NormColon
297	649506	1575.G02.gz43_209361	F	M00054918A:D02	UC2-NormColon
298	446254	1575.M02.gz43_209367	F	M00055429B:E12	UC2-NormColon
299	641542	1575.O02.gz43_209369	F	M00055432B:H02	UC2-NormColon
300	649933	1575.I03.gz43_209379	F	M00054920B:C04	UC2-NormColon
301	639444	1575.M03.gz43_209383	F	M00055429B:G04	UC2-NormColon
302	553100	1575.G04.gz43_209393	F	M00054918A:F09	UC2-NormColon
303	549699	1575.A05.gz43_209403	F	M00054911A:C08	UC2-NormColon
304	639256	1575.E05.gz43_209407	F	M00054916A:E05	UC2-NormColon
305	644556	1575.H05.gz43_209410	F	M00054919C:F06	UC2-NormColon
306	500337	1575.I05.gz43_209411	F	M00054920B:C12	UC2-NormColon
307	643924	1575.K05.gz43_209413	F	M00055427A:F01	UC2-NormColon
308	639394	1575.E06.gz43_209423	F	M00054916A:F10	UC2-NormColon
309	452986	1575.J06.gz43_209428	F	M00055426B:B02	UC2-NormColon
310	654723	1575.K06.gz43_209429	F	M00055427A:F02	UC2-NormColon
311	645344	1575.N07.gz43_209448	F	M00055431A:H05	UC2-NormColon
312	645162	1575.O07.gz43_209449	F	M00055432C:F01	UC2-NormColon
313	589098	1575.B08.gz43_209452	F	M00054912B:C05	UC2-NormColon
314	643843	1575.F08.gz43_209456	F	M00054917C:D03	UC2-NormColon
315	647109	1575.P08.gz43_209466	F	M00055434A:A03	UC2-NormColon
316	467381	1575.D09.gz43_209470	F	M00054914D:G07	UC2-NormColon
317	570812	1575.N09.gz43_209480	F	M00055431B:A01	UC2-NormColon
318	559776	1575.A10.gz43_209483	F	M00054911A:G01	UC2-NormColon
319	648532	1575.F10.gz43_209488	F	M00054917C:F03	UC2-NormColon
320	449861	1575.G10.gz43_209489	F	M00054918B:H01	UC2-NormColon
321	643843	1575.I10.gz43_209491	F	M00054920C:A06	UC2-NormColon
322	41141	1575.K10.gz43_209493	F	M00055427B:E01	UC2-NormColon
323	648664	1575.E11.gz43_209503	F	M00054916B:E02	UC2-NormColon
324	640814	1575.K11.gz43_209509	F	M00055427B:F06	UC2-NormColon
325	584071	1575.M11.gz43_209511	F	M00055429D:G07	UC2-NormColon
326	450225	1575.C12.gz43_209517	F	M00054913C:G03	UC2-NormColon
327	452707	1575.I12.gz43_209523	F	M00054920C:D05	UC2-NormColon
328	243722	1575.L12.gz43_209526	F	M00055428C:G06	UC2-NormColon
329	641057	1575.B13.gz43_209532	F	M00054912C:C01	UC2-NormColon
330	413767	1575.D13.gz43_209534	F	M00054915A:G03	UC2-NormColon
331	504568	1575.K13.gz43_209541	F	M00055427C:A06	UC2-NormColon
332	639992	1575.A15.gz43_209563	F	M00054911B:E10	UC2-NormColon
333	456923	1575.G15.gz43_209569	F	M00054918D:C03	UC2-NormColon
334	649555	1575.I15.gz43_209571	F	M00054920C:F02	UC2-NormColon
335	649746	1575.J15.gz43_209572	F	M00055426C:C10	UC2-NormColon
336	644692	1575.F16.gz43_209584	F	M00054917D:A12	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
337	452204	1575.G16.gz43_209585	F	M00054918D:C11	UC2-NormColon
338	61616	1575.H16.gz43_209586	F	M00054920A:A05	UC2-NormColon
339	495143	1575.M16.gz43_209591	F	M00055430B:E08	UC2-NormColon
340	644371	1575.O16.gz43_209593	F	M00055433A:B07	UC2-NormColon
341	630269	1575.K17.gz43_209605	F	M00055427C:E12	UC2-NormColon
342	446932	1575.O17.gz43_209609	F	M00055433A:B08	UC2-NormColon
343	639662	1575.F18.gz43_209616	F	M00054917D:D12	UC2-NormColon
344	611927	1575.L18.gz43_209622	F	M00055428D:G12	UC2-NormColon
345	641925	1575.O18.gz43_209625	F	M00055433A:C02	UC2-NormColon
346	651020	1575.P18.gz43_209626	F	M00055434C:B11	UC2-NormColon
347	639255	1575.F19.gz43_209632	F	M00054917D:E05	UC2-NormColon
348	468222	1575.G19.gz43_209633	F	M00054918D:H09	UC2-NormColon
349	468783	1575.K19.gz43_209637	F	M00055427C:H11	UC2-NormColon
350	417130	1575.B20.gz43_209644	F	M00054912D:G01	UC2-NormColon
351	448606	1575.B21.gz43_209660	F	M00054912D:G04	UC2-NormColon
352	456420	1575.K21.gz43_209669	F	M00055427D:E05	UC2-NormColon
353	640369	1575.P21.gz43_209674	F	M00055434D:B06	UC2-NormColon
354	473854	1575.E22.gz43_209679	F	M00054917A:F07	UC2-NormColon
355	564440	1575.H22.gz43_209682	F	M00054920A:C11	UC2-NormColon
356	639520	1575.L22.gz43_209686	F	M00055429A:H04	UC2-NormColon
357	649195	1575.O22.gz43_209689	F	M00055433A:E04	UC2-NormColon
358	57183	1575.P22.gz43_209690	F	M00055434D:E09	UC2-NormColon
359	648609	1575.E23.gz43_209695	F	M00054917B:A05	UC2-NormColon
360	648532	1575.F23.gz43_209696	F	M00054917D:H02	UC2-NormColon
361	642073	1575.N23.gz43_209704	F	M00055432B:B04	UC2-NormColon
362	377855	1575.B24.gz43_209708	F	M00054913A:B12	UC2-NormColon
363	452845	1575.G24.gz43_209713	F	M00054919A:H04	UC2-NormColon
364	638758	1575.O24.gz43_209721	F	M00055433C:A11	UC2-NormColon
365	639829	1576.A04.gz43_209771	F	M00055435B:C09	UC2-NormColon
366	484145	1576.I05.gz43_209795	F	M00055446B:A12	UC2-NormColon
367	640055	1576.A08.gz43_209835	F	M00055435C:E12	UC2-NormColon
368	639928	1576.I08.gz43_209843	F	M00055446B:D08	UC2-NormColon
369	526606	1576.L08.gz43_209846	F	M00055450B:G07	UC2-NormColon
370	653616	1576.E09.gz43_209855	F	M00055440D:D02	UC2-NormColon
371	624440	1576.M12.gz43_209911	F	M00055451C:B08	UC2-NormColon
372	560791	1576.O12.gz43_209913	F	M00055453D:E12	UC2-NormColon
373	639287	1576.A13.gz43_209915	F	M00055435D:G11	UC2-NormColon
374	475184	1576.M14.gz43_209943	F	M00055451C:E10	UC2-NormColon
375	626061	1576.A15.gz43_209947	F	M00055436A:E04	UC2-NormColon
376	640734	1576.E16.gz43_209967	F	M00055441A:G07	UC2-NormColon
377	466092	1576.B17.gz43_209980	F	M00055437D:B06	UC2-NormColon
378	639711	1576.A19.gz43_210011	F	M00055436B:B06	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
379	640522	1576.C21.gz43_210045	F	M00055439B:B07	UC2-NormColon
380	651038	1585.I01.gz43_210211	F	M00055465A:C05	UC2-NormColon
381	466440	1585.B02.gz43_210220	F	M00055456C:A10	UC2-NormColon
382	648123	1585.C02.gz43_210221	F	M00055458B:B04	UC2-NormColon
383	646318	1585.K02.gz43_210229	F	M00055468A:A05	UC2-NormColon
384	598589	1585.E03.gz43_210239	F	M00055460B:G06	UC2-NormColon
385	447863	1585.F03.gz43_210240	F	M00055461A:H03	UC2-NormColon
386	562236	1585.P05.gz43_210282	F	M00055494C:G10	UC2-NormColon
387	559369	1585.A06.gz43_210283	F	M00055456A:B03	UC2-NormColon
388	484126	1585.B06.gz43_210284	F	M00055456C:G04	UC2-NormColon
389	558839	1585.P06.gz43_210298	F	M00055494C:G11	UC2-NormColon
390	555820	1585.J07.gz43_210308	F	M00055467A:A07	UC2-NormColon
391	544461	1585.H09.gz43_210338	F	M00055463D:G01	UC2-NormColon
392	642478	1585.A10.gz43_210347	F	M00055456A:F01	UC2-NormColon
393	643843	1585.C11.gz43_210365	F	M00055458C:G02	UC2-NormColon
394	640400	1585.G12.gz43_210385	F	M00055462C:A11	UC2-NormColon
395	645201	1585.L12.gz43_210390	F	M00055469C:F09	UC2-NormColon
396	640792	1585.F13.gz43_210400	F	M00055461C:E05	UC2-NormColon
397	640913	1585.H13.gz43_210402	F	M00055464B:E06	UC2-NormColon
398	639607	1585.I13.gz43_210403	F	M00055465D:F12	UC2-NormColon
399	639932	1585.B14.gz43_210412	F	M00055456D:G04	UC2-NormColon
400	640662	1585.D14.gz43_210414	F	M00055460A:D01	UC2-NormColon
401	598589	1585.G14.gz43_210417	F	M00055462C:C03	UC2-NormColon
402	556654	1585.H14.gz43_210418	F	M00055464B:E11	UC2-NormColon
403	555193	1585.O14.gz43_210425	F	M00055493D:B07	UC2-NormColon
404	641066	1585.E15.gz43_210431	F	M00055460D:B06	UC2-NormColon
405	664711	1585.H15.gz43_210434	F	M00055464B:G03	UC2-NormColon
406	549611	1585.I15.gz43_210435	F	M00055466A:C05	UC2-NormColon
407	639726	1585.K16.gz43_210453	F	M00055468C:B07	UC2-NormColon
408	607422	1585.F17.gz43_210464	F	M00055461D:C09	UC2-NormColon
409	584745	1585.M17.gz43_210471	F	M00055491A:H01	UC2-NormColon
410	661194	1585.H19.gz43_210498	F	M00055464D:A04	UC2-NormColon
411	559549	1585.J20.gz43_210516	F	M00055467D:A01	UC2-NormColon
412	641645	1585.A22.gz43_210539	F	M00055456B:G08	UC2-NormColon
413	641467	1585.C22.gz43_210541	F	M00055459B:A02	UC2-NormColon
414	640368	1585.F22.gz43_210544	F	M00055462A:A09	UC2-NormColon
415	412416	1585.G22.gz43_210545	F	M00055462D:H12	UC2-NormColon
416	650914	1585.H22.gz43_210546	F	M00055464D:F08	UC2-NormColon
417	3	1585.J22.gz43_210548	F	M00055467D:C10	UC2-NormColon
418	646318	1585.N22.gz43_210552	F	M00055492C:H07	UC2-NormColon
419	237288	1585.P22.gz43_210554	F	M00055495C:F03	UC2-NormColon
420	650605	1585.B23.gz43_210556	F	M00055457D:F09	UC2-NormColon



[illegible][illegible]

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
463	649335	1588.B06.gz43_211844	F	M00055538D:D12	UC2-NormColon
464	646159	1588.J06.gz43_211852	F	M00055548B:C03	UC2-NormColon
465	649099	1588.P06.gz43_211858	F	M00055556A:E07	UC2-NormColon
466	32812	1588.H09.gz43_211898	F	M00055546C:F11	UC2-NormColon
467	639480	1588.J09.gz43_211900	F	M00055548B:G06	UC2-NormColon
468	644242	1588.N09.gz43_211904	F	M00055553B:H04	UC2-NormColon
469	644723	1588.N11.gz43_211936	F	M00055553C:D06	UC2-NormColon
470	648748	1588.F13.gz43_211960	F	M00055544C:A01	UC2-NormColon
471	639099	1588.G13.gz43_211961	F	M00055545C:D09	UC2-NormColon
472	562414	1588.F15.gz43_211992	F	M00055544C:B07	UC2-NormColon
473	641078	1588.N15.gz43_212000	F	M00055553C:H12	UC2-NormColon
474	505042	1588.G16.gz43_212009	F	M00055545D:B06	UC2-NormColon
475	640747	1588.N16.gz43_212016	F	M00055553D:C07	UC2-NormColon
476	453606	1588.D17.gz43_212022	F	M00055542B:B11	UC2-NormColon
477	419706	1588.A18.gz43_212035	F	M00055538A:C05	UC2-NormColon
478	557983	1588.H21.gz43_212090	F	M00055547B:C05	UC2-NormColon
479	639114	1588.D22.gz43_212102	F	M00055542C:D07	UC2-NormColon
480	442531	1588.J22.gz43_212108	F	M00055549A:B04	UC2-NormColon
481	649668	1597.N02.gz43_212176	F	M00055574D:E02	UC2-NormColon
482	639781	1597.D05.gz43_212214	F	M00055561C:C07	UC2-NormColon
483	639056	1597.E05.gz43_212215	F	M00055562D:B06	UC2-NormColon
484	639698	1597.P05.gz43_212226	F	M00055577C:G02	UC2-NormColon
485	469731	1597.B06.gz43_212228	F	M00055559A:D06	UC2-NormColon
486	639593	1597.G06.gz43_212233	F	M00055566A:E02	UC2-NormColon
487	557975	1597.J06.gz43_212236	F	M00055569D:C02	UC2-NormColon
488	640356	1597.E08.gz43_212263	F	M00055563A:A02	UC2-NormColon
489	647431	1597.E09.gz43_212279	F	M00055563A:C03	UC2-NormColon
490	31112	1597.C10.gz43_212293	F	M00055560D:C03	UC2-NormColon
491	454825	1597.F10.gz43_212296	F	M00055565A:C08	UC2-NormColon
492	555021	1597.B12.gz43_212324	F	M00055559C:D07	UC2-NormColon
493	650740	1597.I12.gz43_212331	F	M00055569A:D01	UC2-NormColon
494	659031	1597.J12.gz43_212332	F	M00055570B:F07	UC2-NormColon
495	592122	1597.D14.gz43_212358	F	M00055562B:D03	UC2-NormColon
496	45921	1597.N14.gz43_212368	F	M00055575C:B04	UC2-NormColon
497	556511	1597.H15.gz43_212378	F	M00055568A:B04	UC2-NormColon
498	637966	1597.A16.gz43_212387	F	M00055558B:G11	UC2-NormColon
499	553318	1597.F16.gz43_212392	F	M00055565A:F11	UC2-NormColon
500	23961	1597.C17.gz43_212405	F	M00055561A:F07	UC2-NormColon
501	650235	1597.M17.gz43_212415	F	M00055574B:F06	UC2-NormColon
502	596882	1597.F18.gz43_212424	F	M00055565B:F04	UC2-NormColon
503	644928	1597.I18.gz43_212427	F	M00055569A:F06	UC2-NormColon
504	589483	1597.L18.gz43_212430	F	M00055573B:D11	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
505	640956	1597.N18.gz43_212432	F	M00055575D:G04	UC2-NormColon
506	553602	1597.L19.gz43_212446	F	M00055573B:E01	UC2-NormColon
507	640851	1597.O20.gz43_212465	F	M00055577A:G09	UC2-NormColon
508	460666	1597.A21.gz43_212467	F	M00055558D:C08	UC2-NormColon
509	640195	1597.D22.gz43_212486	F	M00055562C:F02	UC2-NormColon
510	668852	1597.P22.gz43_212498	F	M00055578C:F11	UC2-NormColon
511	645913	1597.A23.gz43_212499	F	M00055558D:D07	UC2-NormColon
512	446230	1597.G23.gz43_212505	F	M00055567A:A06	UC2-NormColon
513	649349	1597.N23.gz43_212512	F	M00055576A:F07	UC2-NormColon
514	645538	1597.C24.gz43_212517	F	M00055561B:G12	UC2-NormColon
515	647069	1597.G24.gz43_212521	F	M00055567A:A11	UC2-NormColon
516	638869	1597.H24.gz43_212522	F	M00055568C:F07	UC2-NormColon
517	556	1597.I24.gz43_212523	F	M00055569B:G10	UC2-NormColon
518	648483	1597.O24.gz43_212529	F	M00055577B:F05	UC2-NormColon
519	447272	1598.M01.gz43_212543	F	M00055595C:F12	UC2-NormColon
520	640025	1598.B02.gz43_212548	F	M00055581A:C02	UC2-NormColon
521	415538	1598.E02.gz43_212551	F	M00055585B:F01	UC2-NormColon
522	478229	1598.M02.gz43_212559	F	M00055595C:G03	UC2-NormColon
523	644572	1598.H03.gz43_212570	F	M00055589B:E08	UC2-NormColon
524	648580	1598.B04.gz43_212580	F	M00055581C:A01	UC2-NormColon
525	470769	1598.L04.gz43_212590	F	M00055594C:B03	UC2-NormColon
526	554273	1598.M04.gz43_212591	F	M00055595D:C04	UC2-NormColon
527	641262	1598.C05.gz43_212597	F	M00055583A:A05	UC2-NormColon
528	645707	1598.F05.gz43_212600	F	M00055586D:G07	UC2-NormColon
529	463028	1598.N05.gz43_212608	F	M00055597B:B04	UC2-NormColon
530	640695	1598.P05.gz43_212610	F	M00055601B:D12	UC2-NormColon
531	641925	1598.D06.gz43_212614	F	M00055584A:G11	UC2-NormColon
532	449247	1598.E06.gz43_212615	F	M00055585C:F05	UC2-NormColon
533	646590	1598.L06.gz43_212622	F	M00055594C:F11	UC2-NormColon
534	641191	1598.A07.gz43_212627	F	M00055579C:D04	UC2-NormColon
535	641191	1598.P07.gz43_212642	F	M00055601B:H02	UC2-NormColon
536	641838	1598.K09.gz43_212669	F	M00055593A:F08	UC2-NormColon
537	641440	1598.N09.gz43_212672	F	M00055597D:B05	UC2-NormColon
538	640826	1598.M10.gz43_212687	F	M00055596A:E07	UC2-NormColon
539	459521	1598.A11.gz43_212691	F	M00055579D:C11	UC2-NormColon
540	140909	1598.G11.gz43_212697	F	M00055588B:H11	UC2-NormColon
541	641467	1598.J12.gz43_212716	F	M00055592B:C10	UC2-NormColon
542	455864	1598.L12.gz43_212718	F	M00055594D:F07	UC2-NormColon
543	641957	1598.A13.gz43_212723	F	M00055579D:G09	UC2-NormColon
544	638941	1598.K14.gz43_212749	F	M00055593C:D08	UC2-NormColon
545	648159	1598.B15.gz43_212756	F	M00055582B:A06	UC2-NormColon
546	509973	1598.G15.gz43_212761	F	M00055588C:G09	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
547	641425	1598.A17.gz43_212787	F	M00055580B:B08	UC2-NormColon
548	647312	1598.O17.gz43_212801	F	M00055600C:C02	UC2-NormColon
549	86311	1598.C18.gz43_212805	F	M00055583C:A01	UC2-NormColon
550	515931	1598.O19.gz43_212833	F	M00055600D:B02	UC2-NormColon
551	651000	1598.D21.gz43_212854	F	M00055585A:E12	UC2-NormColon
552	553087	1598.E21.gz43_212855	F	M00055586C:A06	UC2-NormColon
553	646914	1598.G21.gz43_212857	F	M00055589A:B06	UC2-NormColon
554	446371	1598.K21.gz43_212861	F	M00055594B:A01	UC2-NormColon
555	640298	1598.N23.gz43_212896	F	M00055599D:C08	UC2-NormColon
556	201904	1599.A01.gz43_212923	F	M00055602B:B10	UC2-NormColon
557	641338	1599.B01.gz43_212924	F	M00055603D:A09	UC2-NormColon
558	640221	1599.L01.gz43_212934	F	M00055619C:F07	UC2-NormColon
559	454527	1599.F02.gz43_212944	F	M00055610B:E04	UC2-NormColon
560	640868	1599.I08.gz43_213043	F	M00055615C:E01	UC2-NormColon
561	641069	1599.N09.gz43_213064	F	M00055623D:G05	UC2-NormColon
562	559380	1599.B10.gz43_213068	F	M00055604D:F05	UC2-NormColon
563	641680	1599.D10.gz43_213070	F	M00055608C:E03	UC2-NormColon
564	639703	1599.I11.gz43_213091	F	M00055615D:C07	UC2-NormColon
565	641542	1599.C12.gz43_213101	F	M00055606D:C05	UC2-NormColon
566	5201	1599.A15.gz43_213147	F	M00055602D:G08	UC2-NormColon
567	607715	1599.D15.gz43_213150	F	M00055608C:G11	UC2-NormColon
568	640416	1599.L17.gz43_213190	F	M00055620D:D05	UC2-NormColon
569	554833	1599.B19.gz43_213212	F	M00055606A:B11	UC2-NormColon
570	639480	1599.K19.gz43_213221	F	M00055619B:H04	UC2-NormColon
571	607138	1599.P21.gz43_213258	F	M00055628B:B07	UC2-NormColon
572	561626	1599.L23.gz43_213286	F	M00055621B:G03	UC2-NormColon
573	548959	1600.I01.gz43_213315	F	M00055639D:D03	UC2-NormColon
574	639934	1600.H02.gz43_213330	F	M00055638D:D07	UC2-NormColon
575	640956	1600.I03.gz43_213347	F	M00055639D:F08	UC2-NormColon
576	554722	1600.L03.gz43_213350	F	M00055644A:D12	UC2-NormColon
577	649717	1600.D04.gz43_213358	F	M00055633D:A02	UC2-NormColon
578	646695	1600.H04.gz43_213362	F	M00055638D:E09	UC2-NormColon
579	639886	1600.N04.gz43_213368	F	M00055647C:D02	UC2-NormColon
580	451615	1600.K05.gz43_213381	F	M00055643A:C01	UC2-NormColon
581	635965	1600.I07.gz43_213411	F	M00055640A:G03	UC2-NormColon
582	379040	1600.L07.gz43_213414	F	M00055644B:H12	UC2-NormColon
583	640799	1600.C10.gz43_213453	F	M00055632D:A06	UC2-NormColon
584	642246	1600.K11.gz43_213477	F	M00055643B:E05	UC2-NormColon
585	467563	1600.N11.gz43_213480	F	M00055647D:B11	UC2-NormColon
586	640320	1600.O11.gz43_213481	F	M00055649A:H07	UC2-NormColon
587	557401	1600.I12.gz43_213491	F	M00055640C:E06	UC2-NormColon
588	646352	1600.M13.gz43_213511	F	M00055646C:B04	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
589	645004	1600.B15.gz43_213532	F	M00055630B:G04	UC2-NormColon
590	641702	1600.P17.gz43_213578	F	M00055651A:E06	UC2-NormColon
591	562000	1600.I19.gz43_213603	F	M00055641A:C12	UC2-NormColon
592	453441	1600.N19.gz43_213608	F	M00055648B:C01	UC2-NormColon
593	641210	1600.M20.gz43_213623	F	M00055647B:A05	UC2-NormColon
594	458736	1600.P20.gz43_213626	F	M00055651B:F08	UC2-NormColon
595	553285	1600.O21.gz43_213641	F	M00055650A:B05	UC2-NormColon
596	455075	1600.A22.gz43_213643	F	M00055629B:G09	UC2-NormColon
597	166041	1600.D23.gz43_213662	F	M00055634C:F09	UC2-NormColon
598	553516	1600.J23.gz43_213668	F	M00055642D:A05	UC2-NormColon
599	559423	1600.B24.gz43_213676	F	M00055632A:B11	UC2-NormColon
600	131348	1600.C24.gz43_213677	F	M00055633B:G02	UC2-NormColon
601	650180	1600.E24.gz43_213679	F	M00055636A:H12	UC2-NormColon
602	642361	1600.F24.gz43_213680	F	M00055637B:A01	UC2-NormColon
603	561069	1600.K24.gz43_213685	F	M00055643D:G11	UC2-NormColon
604	550515	1600.P24.gz43_213690	F	M00055651C:E01	UC2-NormColon
605	559854	1693.D01.gz43_213694	F	M00055819A:B10	UC2-NormColon
606	650579	1693.J01.gz43_213700	F	M00055827A:A12	UC2-NormColon
607	648567	1693.L02.gz43_213718	F	M00055829C:A07	UC2-NormColon
608	645155	1693.H03.gz43_213730	F	M00055825B:C11	UC2-NormColon
609	650204	1693.H04.gz43_213746	F	M00055825B:E03	UC2-NormColon
610	643054	1693.H06.gz43_213778	F	M00055825B:F09	UC2-NormColon
611	640464	1693.I06.gz43_213779	F	M00055826A:G04	UC2-NormColon
612	363172	1693.A07.gz43_213787	F	M00055816D:A10	UC2-NormColon
613	674526	1693.G08.gz43_213809	F	M00055823B:F02	UC2-NormColon
614	481864	1693.N08.gz43_213816	F	M00055832A:A08	UC2-NormColon
615	492242	1693.A09.gz43_213819	F	M00055816D:B11	UC2-NormColon
616	638837	1693.C10.gz43_213837	F	M00055818B:H03	UC2-NormColon
617	517280	1693.K10.gz43_213845	F	M00055828B:E10	UC2-NormColon
618	452863	1693.A13.gz43_213883	F	M00055816D:E10	UC2-NormColon
619	642962	1693.H13.gz43_213890	F	M00055825D:A03	UC2-NormColon
620	645746	1693.I13.gz43_213891	F	M00055826B:G07	UC2-NormColon
621	645146	1693.L15.gz43_213926	F	M00055829D:H10	UC2-NormColon
622	644781	1693.M15.gz43_213927	F	M00055831A:C06	UC2-NormColon
623	643397	1693.A17.gz43_213947	F	M00055817A:E05	UC2-NormColon
624	645073	1693.L17.gz43_213958	F	M00055830A:G10	UC2-NormColon
625	648580	1693.A19.gz43_213979	F	M00055817A:H07	UC2-NormColon
626	650487	1693.I19.gz43_213987	F	M00055826C:G06	UC2-NormColon
627	455716	1693.J19.gz43_213988	F	M00055827D:A01	UC2-NormColon
628	551681	1693.H20.gz43_214002	F	M00055825D:D11	UC2-NormColon
629	642054	1693.P21.gz43_214026	F	M00055835C:F08	UC2-NormColon
630	556286	1693.J22.gz43_214036	F	M00055827D:C02	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
631	449542	1693.A23.gz43_214043	F	M00055817B:C04	UC2-NormColon
632	517237	1693.M23.gz43_214055	F	M00055831B:C04	UC2-NormColon
633	647191	1694.J01.gz43_214084	F	M00055846B:F11	UC2-NormColon
634	644212	1694.G04.gz43_214129	F	M00055843B:D10	UC2-NormColon
635	549624	1694.P04.gz43_214138	F	M00055854C:C07	UC2-NormColon
636	645149	1694.A05.gz43_214139	F	M00055836A:B12	UC2-NormColon
637	981	1694.F05.gz43_214144	F	M00055842B:A04	UC2-NormColon
638	647448	1694.I05.gz43_214147	F	M00055845C:A11	UC2-NormColon
639	570939	1694.P05.gz43_214154	F	M00055854C:E03	UC2-NormColon
640	547841	1694.L06.gz43_214166	F	M00055849C:G07	UC2-NormColon
641	466265	1694.M06.gz43_214167	F	M00055851A:C03	UC2-NormColon
642	649842	1694.M07.gz43_214183	F	M00055851A:C09	UC2-NormColon
643	468222	1694.I08.gz43_214195	F	M00055845C:C12	UC2-NormColon
644	450949	1694.L08.gz43_214198	F	M00055849D:B04	UC2-NormColon
645	603388	1694.O08.gz43_214201	F	M00055853C:C12	UC2-NormColon
646	485237	1694.E09.gz43_214207	F	M00055841B:F09	UC2-NormColon
647	644063	1694.F09.gz43_214208	F	M00055842B:D04	UC2-NormColon
648	639341	1694.N09.gz43_214216	F	M00055852A:C12	UC2-NormColon
649	471364	1694.P09.gz43_214218	F	M00055854C:H11	UC2-NormColon
650	452735	1694.A10.gz43_214219	F	M00055836C:D01	UC2-NormColon
651	503546	1694.E10.gz43_214223	F	M00055841B:H03	UC2-NormColon
652	646420	1694.I10.gz43_214227	F	M00055845C:E02	UC2-NormColon
653	647577	1694.O10.gz43_214233	F	M00055853C:H03	UC2-NormColon
654	504944	1694.B11.gz43_214236	F	M00055837D:G10	UC2-NormColon
655	522869	1694.D11.gz43_214238	F	M00055840B:B02	UC2-NormColon
656	644548	1694.F11.gz43_214240	F	M00055842C:A11	UC2-NormColon
657	644314	1694.H11.gz43_214242	F	M00055844D:E12	UC2-NormColon
658	650492	1694.O11.gz43_214249	F	M00055853D:A07	UC2-NormColon
659	643800	1694.B12.gz43_214252	F	M00055838A:A03	UC2-NormColon
660	643843	1694.E12.gz43_214255	F	M00055841C:A03	UC2-NormColon
661	448450	1694.B13.gz43_214268	F	M00055838A:B02	UC2-NormColon
662	643804	1694.C13.gz43_214269	F	M00055839B:A10	UC2-NormColon
663	469511	1694.L13.gz43_214278	F	M00055849D:H09	UC2-NormColon
664	643130	1694.O13.gz43_214281	F	M00055853D:B04	UC2-NormColon
665	640171	1694.J14.gz43_214292	F	M00055846D:G11	UC2-NormColon
666	647522	1694.M14.gz43_214295	F	M00055851A:H10	UC2-NormColon
667	642293	1694.N14.gz43_214296	F	M00055852B:G09	UC2-NormColon
668	404816	1694.P14.gz43_214298	F	M00055855A:B11	UC2-NormColon
669	447597	1694.A15.gz43_214299	F	M00055837A:B08	UC2-NormColon
670	467901	1694.B15.gz43_214300	F	M00055838B:D06	UC2-NormColon
671	648039	1694.C15.gz43_214301	F	M00055839B:C07	UC2-NormColon
672	607430	1694.E15.gz43_214303	F	M00055841C:D05	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
673	645505	1694.F15.gz43_214304	F	M00055842D:C02	UC2-NormColon
674	472119	1694.G15.gz43_214305	F	M00055843D:H01	UC2-NormColon
675	645197	1694.K15.gz43_214309	F	M00055848C:A02	UC2-NormColon
676	650217	1694.O15.gz43_214313	F	M00055853D:C07	UC2-NormColon
677	644210	1694.A16.gz43_214315	F	M00055837A:D09	UC2-NormColon
678	466697	1694.H16.gz43_214322	F	M00055844D:H09	UC2-NormColon
679	650276	1694.I16.gz43_214323	F	M00055845D:G11	UC2-NormColon
680	562229	1694.M16.gz43_214327	F	M00055851B:B09	UC2-NormColon
681	462659	1694.P16.gz43_214330	F	M00055855A:G05	UC2-NormColon
682	644494	1694.B17.gz43_214332	F	M00055838B:H04	UC2-NormColon
683	24730	1694.D17.gz43_214334	F	M00055840C:D06	UC2-NormColon
684	599759	1694.E17.gz43_214335	F	M00055841C:D11	UC2-NormColon
685	15001	1694.F17.gz43_214336	F	M00055842D:D07	UC2-NormColon
686	558981	1694.K17.gz43_214341	F	M00055848C:G07	UC2-NormColon
687	592122	1694.O17.gz43_214345	F	M00055854A:B07	UC2-NormColon
688	489249	1694.A18.gz43_214347	F	M00055837A:F02	UC2-NormColon
689	447002	1694.B18.gz43_214348	F	M00055838C:A08	UC2-NormColon
690	558890	1694.C18.gz43_214349	F	M00055839B:E07	UC2-NormColon
691	644548	1694.D18.gz43_214350	F	M00055840C:H06	UC2-NormColon
692	643825	1694.G18.gz43_214353	F	M00055844A:D03	UC2-NormColon
693	645289	1694.A19.gz43_214363	F	M00055837A:H08	UC2-NormColon
694	643948	1694.B19.gz43_214364	F	M00055838C:B08	UC2-NormColon
695	537586	1694.C19.gz43_214365	F	M00055839B:H09	UC2-NormColon
696	462557	1694.F19.gz43_214368	F	M00055842D:F07	UC2-NormColon
697	647577	1694.G19.gz43_214369	F	M00055844A:D07	UC2-NormColon
698	643999	1694.H19.gz43_214370	F	M00055845A:C03	UC2-NormColon
699	651131	1694.J19.gz43_214372	F	M00055847B:G12	UC2-NormColon
700	425923	1694.M19.gz43_214375	F	M00055851B:G10	UC2-NormColon
701	639510	1694.O19.gz43_214377	F	M00055854A:D01	UC2-NormColon
702	643977	1694.D20.gz43_214382	F	M00055840D:B03	UC2-NormColon
703	140648	1694.E20.gz43_214383	F	M00055841C:H04	UC2-NormColon
704	649068	1694.G20.gz43_214385	F	M00055844A:F11	UC2-NormColon
705	644708	1694.N20.gz43_214392	F	M00055852D:B11	UC2-NormColon
706	643909	1694.P20.gz43_214394	F	M00055855B:B11	UC2-NormColon
707	650528	1694.E21.gz43_214399	F	M00055841D:C11	UC2-NormColon
708	644569	1694.H21.gz43_214402	F	M00055845A:H10	UC2-NormColon
709	646459	1694.J21.gz43_214404	F	M00055847C:A11	UC2-NormColon
710	608873	1694.L21.gz43_214406	F	M00055850C:D01	UC2-NormColon
711	649611	1694.N21.gz43_214408	F	M00055852D:G12	UC2-NormColon
712	465576	1694.P21.gz43_214410	F	M00055855B:D12	UC2-NormColon
713	467521	1694.C22.gz43_214413	F	M00055839C:B11	UC2-NormColon
714	646810	1694.J22.gz43_214420	F	M00055847C:C01	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
715	647318	1694.L22.gz43_214422	F	M00055850C:G05	UC2-NormColon
716	638854	1694.O22.gz43_214425	F	M00055854A:E04	UC2-NormColon
717	644987	1694.A23.gz43_214427	F	M00055837B:E07	UC2-NormColon
718	645948	1694.C23.gz43_214429	F	M00055839C:D06	UC2-NormColon
719	419751	1694.I23.gz43_214435	F	M00055846B:B12	UC2-NormColon
720	643594	1694.M23.gz43_214439	F	M00055851C:F12	UC2-NormColon
721	603388	1694.P23.gz43_214442	F	M00055855C:F11	UC2-NormColon
722	644075	1694.G24.gz43_214449	F	M00055844B:C12	UC2-NormColon
723	542282	1694.I24.gz43_214451	F	M00055846B:C12	UC2-NormColon
724	452976	1694.J24.gz43_214452	F	M00055847C:H09	UC2-NormColon
725	472801	1694.M24.gz43_214455	F	M00055851C:H05	UC2-NormColon
726	646633	1695.P03.gz43_214910	F	M00055875B:E09	UC2-NormColon
727	509027	1695.A04.gz43_214911	F	M00055855D:D12	UC2-NormColon
728	596882	1695.D05.gz43_214930	F	M00055860D:E04	UC2-NormColon
729	644442	1695.A07.gz43_214959	F	M00055855D:G08	UC2-NormColon
730	644047	1695.F07.gz43_214964	F	M00055863D:D09	UC2-NormColon
731	397399	1695.H07.gz43_214966	F	M00055866A:G10	UC2-NormColon
732	564854	1695.A08.gz43_214975	F	M00055856A:C06	UC2-NormColon
733	646372	1695.B08.gz43_214976	F	M00055857C:D09	UC2-NormColon
734	645848	1695.D08.gz43_214978	F	M00055861B:F04	UC2-NormColon
735	447035	1695.M08.gz43_214987	F	M00055872D:D12	UC2-NormColon
736	644149	1695.A09.gz43_214991	F	M00055856A:D12	UC2-NormColon
737	640147	1695.E09.gz43_214995	F	M00055862D:B02	UC2-NormColon
738	524261	1695.K09.gz43_215001	F	M00055871A:H06	UC2-NormColon
739	449500	1695.E11.gz43_215027	F	M00055862D:D06	UC2-NormColon
740	648819	1695.K11.gz43_215033	F	M00055871B:B03	UC2-NormColon
741	644755	1695.L11.gz43_215034	F	M00055872A:C08	UC2-NormColon
742	516512	1695.P11.gz43_215038	F	M00055875C:C07	UC2-NormColon
743	380550	1695.L12.gz43_215050	F	M00055872A:D08	UC2-NormColon
744	645538	1695.D13.gz43_215058	F	M00055861C:G03	UC2-NormColon
745	644047	1695.F13.gz43_215060	F	M00055864A:C09	UC2-NormColon
746	650773	1695.F14.gz43_215076	F	M00055864A:E11	UC2-NormColon
747	449936	1695.J14.gz43_215080	F	M00055869C:G06	UC2-NormColon
748	554646	1695.O14.gz43_215085	F	M00055875A:G05	UC2-NormColon
749	640534	1695.L15.gz43_215098	F	M00055872A:E11	UC2-NormColon
750	642411	1695.J16.gz43_215112	F	M00055869D:A07	UC2-NormColon
751	643451	1695.M16.gz43_215115	F	M00055873A:E03	UC2-NormColon
752	644435	1695.H17.gz43_215126	F	M00055866C:G09	UC2-NormColon
753	561877	1695.F18.gz43_215140	F	M00055864B:C09	UC2-NormColon
754	645497	1695.N18.gz43_215148	F	M00055874A:F06	UC2-NormColon
755	644030	1695.E20.gz43_215171	F	M00055863B:C07	UC2-NormColon
756	140224	1695.D21.gz43_215186	F	M00055862A:C01	UC2-NormColon



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
757	643099	1695.K21.gz43_215193	F	M00055871C:C07	UC2-NormColon
758	643333	1695.P22.gz43_215214	F	M00055875D:D01	UC2-NormColon
759	649660	1695.G23.gz43_215221	F	M00055865C:G11	UC2-NormColon
760	645288	1695.H23.gz43_215222	F	M00055867A:B02	UC2-NormColon
761	650517	1695.G24.gz43_215237	F	M00055865C:H06	UC2-NormColon
762	552201	1696.J01.gz43_215256	F	M00055885C:B07	UC2-NormColon
763	643513	1696.P02.gz43_215278	F	M00055891B:F09	UC2-NormColon
764	447807	1696.D04.gz43_215298	F	M00055880B:A06	UC2-NormColon
765	639256	1696.M04.gz43_215307	F	M00055888C:F07	UC2-NormColon
766	179760	1696.G05.gz43_215317	F	M00055883A:C02	UC2-NormColon
767	459274	1696.G06.gz43_215333	F	M00055883A:C10	UC2-NormColon
768	345761	1696.I06.gz43_215335	F	M00055884D:F07	UC2-NormColon
769	640356	1696.M06.gz43_215339	F	M00055888C:G09	UC2-NormColon
770	645638	1696.A07.gz43_215343	F	M00055877A:H04	UC2-NormColon
771	464171	1696.N11.gz43_215420	F	M00055890A:A06	UC2-NormColon
772	446225	1696.E13.gz43_215443	F	M00055881A:G07	UC2-NormColon
773	450559	1696.F14.gz43_215460	F	M00055882C:A06	UC2-NormColon
774	643248	1696.L14.gz43_215466	F	M00055887D:C11	UC2-NormColon
775	549114	1696.N14.gz43_215468	F	M00055890A:D01	UC2-NormColon
776	645215	1696.D15.gz43_215474	F	M00055880C:F07	UC2-NormColon
777	555172	1696.I15.gz43_215479	F	M00055885B:A11	UC2-NormColon
778	593715	1696.B16.gz43_215488	F	M00055878C:C02	UC2-NormColon
779	586992	1696.I16.gz43_215495	F	M00055885B:B04	UC2-NormColon
780	451670	1696.H17.gz43_215510	F	M00055884B:F10	UC2-NormColon
781	552628	1696.H18.gz43_215526	F	M00055884B:H07	UC2-NormColon
782	643233	1696.A21.gz43_215567	F	M00055877D:C05	UC2-NormColon
783	640400	1696.F21.gz43_215572	F	M00055882D:B02	UC2-NormColon
784	644468	1696.G21.gz43_215573	F	M00055883D:B06	UC2-NormColon
785	643046	1696.H21.gz43_215574	F	M00055884C:B07	UC2-NormColon
786	649068	1696.N21.gz43_215580	F	M00055890A:G12	UC2-NormColon
787	648063	1696.E22.gz43_215587	F	M00055881D:A02	UC2-NormColon
788	570248	1696.M23.gz43_215611	F	M00055889B:E12	UC2-NormColon
789	643724	1696.N23.gz43_215612	F	M00055890A:H11	UC2-NormColon
790	649027	1696.P23.gz43_215614	F	M00055892A:F04	UC2-NormColon
791	643366	1696.P24.gz43_215630	F	M00055892B:D02	UC2-NormColon
792	526575	1705.E01.gz43_215635	F	M00055900D:D03	UC2-NormColon
793	449737	1705.O02.gz43_215661	F	M00055914A:A03	UC2-NormColon
794	394373	1705.B03.gz43_215664	F	M00055894B:E09	UC2-NormColon
795	557361	1705.C03.gz43_215665	F	M00055896D:G10	UC2-NormColon
796	644364	1705.K04.gz43_215689	F	M00055908D:F09	UC2-NormColon
797	644242	1705.M05.gz43_215707	F	M00055911B:E06	UC2-NormColon
798	644407	1705.N05.gz43_215708	F	M00055912D:F04	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
799	643513	1705.F06.gz43_215716	F	M00055902A:H11	UC2-NormColon
800	639194	1705.H06.gz43_215718	F	M00055905B:H01	UC2-NormColon
801	454720	1705.I06.gz43_215719	F	M00055906D:G03	UC2-NormColon
802	643300	1705.O09.gz43_215773	F	M00055914C:D12	UC2-NormColon
803	647522	1705.E10.gz43_215779	F	M00055901B:A02	UC2-NormColon
804	648576	1705.B11.gz43_215792	F	M00055896A:G01	UC2-NormColon
805	485237	1705.C11.gz43_215793	F	M00055898B:E07	UC2-NormColon
806	644108	1705.O11.gz43_215805	F	M00055914C:G01	UC2-NormColon
807	643914	1705.G12.gz43_215813	F	M00055904B:B01	UC2-NormColon
808	641645	1705.O12.gz43_215821	F	M00055914C:G11	UC2-NormColon
809	605596	1705.H13.gz43_215830	F	M00055905D:B06	UC2-NormColon
810	564134	1705.O13.gz43_215837	F	M00055914D:A08	UC2-NormColon
811	643948	1705.B14.gz43_215840	F	M00055896B:C06	UC2-NormColon
812	557947	1705.F14.gz43_215844	F	M00055902D:A07	UC2-NormColon
813	15001	1705.G15.gz43_215861	F	M00055904C:A07	UC2-NormColon
814	649170	1705.P15.gz43_215870	F	M00055916B:C02	UC2-NormColon
815	644390	1705.D16.gz43_215874	F	M00055900A:F08	UC2-NormColon
816	643089	1705.K16.gz43_215881	F	M00055909B:G10	UC2-NormColon
817	553587	1705.O16.gz43_215885	F	M00055914D:G06	UC2-NormColon
818	550242	1705.H17.gz43_215894	F	M00055905D:H02	UC2-NormColon
819	639413	1705.O17.gz43_215901	F	M00055915A:A06	UC2-NormColon
820	645844	1705.C18.gz43_215905	F	M00055899A:B03	UC2-NormColon
821	641087	1705.E18.gz43_215907	F	M00055901C:C10	UC2-NormColon
822	482163	1705.F18.gz43_215908	F	M00055902D:H10	UC2-NormColon
823	643808	1705.G18.gz43_215909	F	M00055904D:A06	UC2-NormColon
824	468147	1705.L19.gz43_215930	F	M00055910C:G01	UC2-NormColon
825	446728	1705.D20.gz43_215938	F	M00055900B:E12	UC2-NormColon
826	447326	1705.K20.gz43_215945	F	M00055909C:E08	UC2-NormColon
827	685001	1705.L20.gz43_215946	F	M00055910C:G04	UC2-NormColon
828	645781	1705.K21.gz43_215961	F	M00055909C:G09	UC2-NormColon
829	643825	1705.L21.gz43_215962	F	M00055910D:A03	UC2-NormColon
830	374340	1705.A22.gz43_215967	F	M00055894A:H08	UC2-NormColon
831	640756	1705.M22.gz43_215979	F	M00055912C:C08	UC2-NormColon
832	400741	1705.B23.gz43_215984	F	M00055896C:H10	UC2-NormColon
833	644063	1705.F24.gz43_216004	F	M00055903B:C10	UC2-NormColon
834	644354	1705.G24.gz43_216005	F	M00055905A:F11	UC2-NormColon
835	89082	1705.K24.gz43_216009	F	M00055909D:E01	UC2-NormColon
836	643991	1705.O24.gz43_216013	F	M00055915C:B09	UC2-NormColon
837	459881	1706.B01.gz43_216028	F	M00055918B:B10	UC2-NormColon
838	644554	1706.C01.gz43_216029	F	M00055919D:H07	UC2-NormColon
839	557175	1706.B03.gz43_216060	F	M00055918B:F10	UC2-NormColon
840	641484	1706.F03.gz43_216064	F	M00055924C:A09	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
841	651131	1706.B05.gz43_216092	F	M00055918C:C04	UC2-NormColon
842	644629	1706.J05.gz43_216100	F	M00055930A:G04	UC2-NormColon
843	419009	1706.E06.gz43_216111	F	M00055922D:G10	UC2-NormColon
844	446795	1706.M06.gz43_216119	F	M00055934C:E06	UC2-NormColon
845	638808	1706.L07.gz43_216134	F	M00055933A:E05	UC2-NormColon
846	646596	1706.N07.gz43_216136	F	M00055936C:B05	UC2-NormColon
847	639901	1706.P07.gz43_216138	F	M00055939B:A11	UC2-NormColon
848	648379	1706.N08.gz43_216152	F	M00055936C:D03	UC2-NormColon
849	650938	1706.J09.gz43_216164	F	M00055930C:D03	UC2-NormColon
850	643170	1706.E10.gz43_216175	F	M00055923B:C07	UC2-NormColon
851	643239	1706.H10.gz43_216178	F	M00055927D:E11	UC2-NormColon
852	639596	1706.J10.gz43_216180	F	M00055930C:F06	UC2-NormColon
853	605114	1706.L10.gz43_216182	F	M00055933B:B11	UC2-NormColon
854	456920	1706.N11.gz43_216200	F	M00055936D:F03	UC2-NormColon
855	647952	1706.B12.gz43_216204	F	M00055919A:A06	UC2-NormColon
856	650470	1706.M12.gz43_216215	F	M00055934D:H09	UC2-NormColon
857	465576	1706.D13.gz43_216222	F	M00055922A:F05	UC2-NormColon
858	455413	1706.P13.gz43_216234	F	M00055939D:D07	UC2-NormColon
859	639038	1706.H15.gz43_216258	F	M00055928A:C06	UC2-NormColon
860	556925	1706.J15.gz43_216260	F	M00055930C:H05	UC2-NormColon
861	644301	1706.A16.gz43_216267	F	M00055917D:E07	UC2-NormColon
862	447520	1706.J16.gz43_216276	F	M00055930D:B05	UC2-NormColon
863	447426	1706.D17.gz43_216286	F	M00055922B:A06	UC2-NormColon
864	610893	1706.H17.gz43_216290	F	M00055928A:E11	UC2-NormColon
865	613626	1706.J17.gz43_216292	F	M00055930D:B09	UC2-NormColon
866	645092	1706.N17.gz43_216296	F	M00055937A:F07	UC2-NormColon
867	649873	1706.P19.gz43_216330	F	M00055940B:A08	UC2-NormColon
868	645028	1706.A20.gz43_216331	F	M00055918A:F10	UC2-NormColon
869	639154	1706.F20.gz43_216336	F	M00055925B:D09	UC2-NormColon
870	649085	1706.D21.gz43_216350	F	M00055922B:G09	UC2-NormColon
871	643332	1706.F21.gz43_216352	F	M00055925B:D10	UC2-NormColon
872	643383	1706.H21.gz43_216354	F	M00055928B:E11	UC2-NormColon
873	204	1706.J21.gz43_216356	F	M00055930D:F05	UC2-NormColon
874	641716	1706.N21.gz43_216360	F	M00055937C:C08	UC2-NormColon
875	643627	1706.E22.gz43_216367	F	M00055924B:D02	UC2-NormColon
876	640672	1706.M23.gz43_216391	F	M00055935C:E03	UC2-NormColon
877	550237	1707.J02.gz43_216453	F	M00055956D:B01	UC2-NormColon
878	646317	1707.B04.gz43_216477	F	M00055942B:H10	UC2-NormColon
879	643968	1707.K05.gz43_216502	F	M00055958C:E03	UC2-NormColon
880	649549	1707.F06.gz43_216513	F	M00055949D:B07	UC2-NormColon
881	513619	1707.O07.gz43_216538	F	M00055967A:F11	UC2-NormColon
882	460245	1707.I08.gz43_216548	F	M00055955B:C06	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
883	646061	1707.O08.gz43_216554	F	M00055967A:G01	UC2-NormColon
884	645273	1707.O09.gz43_216570	F	M00055967B:B12	UC2-NormColon
885	524546	1707.A12.gz43_216604	F	M00055941B:A04	UC2-NormColon
886	648782	1707.B12.gz43_216605	F	M00055942D:A01	UC2-NormColon
887	645900	1707.O13.gz43_216634	F	M00055967B:F07	UC2-NormColon
888	648555	1707.D14.gz43_216639	F	M00055945C:D09	UC2-NormColon
889	452316	1707.J14.gz43_216645	F	M00055957B:F11	UC2-NormColon
890	461363	1707.D17.gz43_216687	F	M00055945D:D01	UC2-NormColon
891	644720	1707.D18.gz43_216703	F	M00055945D:E08	UC2-NormColon
892	647312	1707.L18.gz43_216711	F	M00055961D:F06	UC2-NormColon
893	646190	1707.N18.gz43_216713	F	M00055966B:H09	UC2-NormColon
894	531529	1707.H19.gz43_216723	F	M00055954C:G07	UC2-NormColon
895	393599	1707.E20.gz43_216736	F	M00055947C:E09	UC2-NormColon
896	645508	1707.N20.gz43_216745	F	M00055966C:D03	UC2-NormColon
897	383609	1707.O23.gz43_216794	F	M00055967D:C05	UC2-NormColon
898	447805	1707.B24.gz43_216797	F	M00055943B:E01	UC2-NormColon
899	694643	1707.P24.gz43_216811	F	M00055969A:F02	UC2-NormColon
900	647924	1708.I01.gz43_216820	F	M00055980B:B07	UC2-NormColon
901	645920	1708.P01.gz43_216827	F	M00055990A:F07	UC2-NormColon
902	641484	1708.M02.gz43_216840	F	M00055985D:E09	UC2-NormColon
903	640672	1708.A04.gz43_216860	F	M00055969B:B05	UC2-NormColon
904	644226	1708.K04.gz43_216870	F	M00055982C:H01	UC2-NormColon
905	557852	1708.C06.gz43_216894	F	M00055972C:C09	UC2-NormColon
906	558052	1708.C07.gz43_216910	F	M00055972C:F02	UC2-NormColon
907	644354	1708.I08.gz43_216932	F	M00055980C:G12	UC2-NormColon
908	645746	1708.L08.gz43_216935	F	M00055984D:E04	UC2-NormColon
909	647539	1708.M09.gz43_216952	F	M00055986A:F05	UC2-NormColon
910	645288	1708.L10.gz43_216967	F	M00055985A:B06	UC2-NormColon
911	645289	1708.A11.gz43_216972	F	M00055969D:B08	UC2-NormColon
912	642058	1708.G11.gz43_216978	F	M00055978A:H03	UC2-NormColon
913	642955	1708.A12.gz43_216988	F	M00055969D:F08	UC2-NormColon
914	640092	1708.H12.gz43_216995	F	M00055979B:G07	UC2-NormColon
915	558452	1708.P12.gz43_217003	F	M00055990D:B02	UC2-NormColon
916	645427	1708.L13.gz43_217015	F	M00055985B:C02	UC2-NormColon
917	649082	1708.B14.gz43_217021	F	M00055971B:A11	UC2-NormColon
918	451709	1708.K14.gz43_217030	F	M00055983C:C09	UC2-NormColon
919	640204	1708.H15.gz43_217043	F	M00055979C:B07	UC2-NormColon
920	640179	1708.N15.gz43_217049	F	M00055988A:A12	UC2-NormColon
921	582549	1708.P15.gz43_217051	F	M00055990D:G09	UC2-NormColon
922	484355	1708.G16.gz43_217058	F	M00055978B:F01	UC2-NormColon
923	646013	1708.J17.gz43_217077	F	M00055982A:G06	UC2-NormColon
924	649309	1708.P18.gz43_217099	F	M00055991A:D10	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
925	647333	1708.F19.gz43_217105	F	M00055977A:G09	UC2-NormColon
926	647058	1708.A21.gz43_217132	F	M00055970C:A05	UC2-NormColon
927	643723	1708.F21.gz43_217137	F	M00055977B:F06	UC2-NormColon
928	639359	1708.N21.gz43_217145	F	M00055988A:E05	UC2-NormColon
929	647539	1708.H23.gz43_217171	F	M00055980A:H06	UC2-NormColon
930	647211	1708.C24.gz43_217182	F	M00055973C:F10	UC2-NormColon
931	650018	1708.J24.gz43_217189	F	M00055982C:A12	UC2-NormColon
932	645848	1708.K24.gz43_217190	F	M00055984A:F05	UC2-NormColon
933	646212	1708.P24.gz43_217195	F	M00055991C:H11	UC2-NormColon
934	406436	1588.N01.gz43_217262	F	M00055553A:D08	UC2-NormColon
935	553651	1588.E02.gz43_217269	F	M00055542C:H05	UC2-NormColon
936	466092	1588.H02.gz43_217272	F	M00055546B:H03	UC2-NormColon
937	645891	1588.N02.gz43_217278	F	M00055553A:F11	UC2-NormColon
938	649390	1588.A03.gz43_217281	F	M00055536B:H11	UC2-NormColon
939	448358	1588.H04.gz43_217304	F	M00055546C:B01	UC2-NormColon
940	650982	1588.I04.gz43_217305	F	M00055547C:B07	UC2-NormColon
941	644012	1588.O05.gz43_217327	F	M00055554C:B04	UC2-NormColon
942	649099	1588.P06.gz43_217344	F	M00055556A:E07	UC2-NormColon
943	551662	1588.M07.gz43_217357	F	M00055551C:C08	UC2-NormColon
944	639316	1588.K08.gz43_217371	F	M00055549C:E10	UC2-NormColon
945	639480	1588.J09.gz43_217386	F	M00055548B:G06	UC2-NormColon
946	1318	1588.A11.gz43_217409	F	M00055537C:A01	UC2-NormColon
947	457146	1588.L11.gz43_217420	F	M00055550D:D02	UC2-NormColon
948	451671	1588.A15.gz43_217473	F	M00055537C:E04	UC2-NormColon
949	641401	1588.I15.gz43_217481	F	M00055547D:G06	UC2-NormColon
950	453606	1588.D17.gz43_217508	F	M00055542B:B11	UC2-NormColon
951	642414	1588.G17.gz43_217511	F	M00055545D:C03	UC2-NormColon
952	649564	1588.H18.gz43_217528	F	M00055547A:H11	UC2-NormColon
953	529799	1588.I18.gz43_217529	F	M00055548A:D07	UC2-NormColon
954	645781	1588.N18.gz43_217534	F	M00055553D:E06	UC2-NormColon
955	447379	1588.M20.gz43_217565	F	M00055552C:G03	UC2-NormColon
956	639461	1588.A21.gz43_217569	F	M00055538B:G09	UC2-NormColon
957	451361	1588.D21.gz43_217572	F	M00055542C:B02	UC2-NormColon
958	449891	1588.I22.gz43_217593	F	M00055548A:F04	UC2-NormColon
959	639395	1588.O22.gz43_217599	F	M00055555D:B05	UC2-NormColon
960	644173	1588.F23.gz43_217606	F	M00055545A:C01	UC2-NormColon
961	648494	1588.H24.gz43_217624	F	M00055547B:G09	UC2-NormColon
962	477064	1588.P24.gz43_217632	F	M00055557B:B10	UC2-NormColon
963	535436	1729.L02.gz43_217660	F	M00056092B:D10	UC2-NormColon
964	650900	1729.B04.gz43_217682	F	M00056078B:G02	UC2-NormColon
965	649149	1729.D04.gz43_217684	F	M00056081A:C05	UC2-NormColon
966	644054	1729.K04.gz43_217691	F	M00056091A:E04	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
967	649082	1729.P04.gz43_217696	F	M00056097B:C04	UC2-NormColon
968	454176	1729.J05.gz43_217706	F	M00056089D:A09	UC2-NormColon
969	448485	1729.A06.gz43_217713	F	M00056077B:E03	UC2-NormColon
970	643440	1729.N06.gz43_217726	F	M00056095B:A07	UC2-NormColon
971	649356	1729.J08.gz43_217754	F	M00056089D:E07	UC2-NormColon
972	710155	1729.L08.gz43_217756	F	M00056092C:E12	UC2-NormColon
973	560054	1729.E11.gz43_217797	F	M00056082A:E12	UC2-NormColon
974	644712	1729.K11.gz43_217803	F	M00056091C:C06	UC2-NormColon
975	646696	1729.A12.gz43_217809	F	M00056077C:H02	UC2-NormColon
976	644715	1729.H12.gz43_217816	F	M00056087B:G12	UC2-NormColon
977	644965	1729.N12.gz43_217822	F	M00056095C:E02	UC2-NormColon
978	645050	1729.K13.gz43_217835	F	M00056091C:D09	UC2-NormColon
979	649514	1729.N14.gz43_217854	F	M00056095C:G07	UC2-NormColon
980	570939	1729.E15.gz43_217861	F	M00056082B:G07	UC2-NormColon
981	647437	1729.F16.gz43_217878	F	M00056083D:D11	UC2-NormColon
982	650547	1729.L16.gz43_217884	F	M00056093A:B12	UC2-NormColon
983	649054	1729.P16.gz43_217888	F	M00056098B:C04	UC2-NormColon
984	645409	1729.K17.gz43_217899	F	M00056091D:C12	UC2-NormColon
985	613722	1729.B18.gz43_217906	F	M00056079A:B01	UC2-NormColon
986	418763	1729.L18.gz43_217916	F	M00056093A:F08	UC2-NormColon
987	619635	1729.K20.gz43_217947	F	M00056091D:E10	UC2-NormColon
988	645131	1729.L20.gz43_217948	F	M00056093B:D03	UC2-NormColon
989	451899	1729.M22.gz43_217981	F	M00056095A:C02	UC2-NormColon
990	597647	1729.P22.gz43_217984	F	M00056098D:A08	UC2-NormColon
991	560860	1717.F01.gz43_218406	F	M00055998B:D06	UC2-NormColon
992	640709	1717.P01.gz43_218416	F	M00056009D:C12	UC2-NormColon
993	447802	1717.O02.gz43_218431	F	M00056008B:G05	UC2-NormColon
994	641736	1717.I03.gz43_218441	F	M00056001D:B06	UC2-NormColon
995	464498	1717.J03.gz43_218442	F	M00056003B:G11	UC2-NormColon
996	452775	1717.K03.gz43_218443	F	M00056004D:F03	UC2-NormColon
997	561836	1717.L03.gz43_218444	F	M00056005C:F11	UC2-NormColon
998	444454	1717.K04.gz43_218459	F	M00056004D:F12	UC2-NormColon
999	639178	1717.O04.gz43_218463	F	M00056008C:D04	UC2-NormColon
1000	513888	1717.F05.gz43_218470	F	M00055998C:D04	UC2-NormColon
1001	643971	1717.I05.gz43_218473	F	M00056001D:G12	UC2-NormColon
1002	644824	1717.J05.gz43_218474	F	M00056003C:C09	UC2-NormColon
1003	448418	1717.N05.gz43_218478	F	M00056007C:A03	UC2-NormColon
1004	644030	1717.O05.gz43_218479	F	M00056008C:D08	UC2-NormColon
1005	644972	1717.P05.gz43_218480	F	M00056010A:E05	UC2-NormColon
1006	649556	1717.B06.gz43_218482	F	M00055993D:F12	UC2-NormColon
1007	644611	1717.I06.gz43_218489	F	M00056002A:A03	UC2-NormColon
1008	645162	1717.J07.gz43_218506	F	M00056003C:H10	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1009	470462	1717.L07.gz43_218508	F	M00056005D:C04	UC2-NormColon
1010	645662	1717.A08.gz43_218513	F	M00055992A:D08	UC2-NormColon
1011	649259	1717.H08.gz43_218520	F	M00056000C:D09	UC2-NormColon
1012	650018	1717.D09.gz43_218532	F	M00055996C:A02	UC2-NormColon
1013	640645	1717.D10.gz43_218548	F	M00055996C:A08	UC2-NormColon
1014	643477	1717.M10.gz43_218557	F	M00056006D:E03	UC2-NormColon
1015	541214	1717.E11.gz43_218565	F	M00055997D:A11	UC2-NormColon
1016	651083	1717.M11.gz43_218573	F	M00056006D:F05	UC2-NormColon
1017	549889	1717.G12.gz43_218583	F	M00055999D:C05	UC2-NormColon
1018	558856	1717.D13.gz43_218596	F	M00055996D:D07	UC2-NormColon
1019	644022	1717.N13.gz43_218606	F	M00056007D:F07	UC2-NormColon
1020	644612	1717.O13.gz43_218607	F	M00056008D:D02	UC2-NormColon
1021	644949	1717.P13.gz43_218608	F	M00056011A:C11	UC2-NormColon
1022	643808	1717.C14.gz43_218611	F	M00055995A:G09	UC2-NormColon
1023	642260	1717.O14.gz43_218623	F	M00056008D:D03	UC2-NormColon
1024	651119	1717.B15.gz43_218626	F	M00055994B:B12	UC2-NormColon
1025	477521	1717.C15.gz43_218627	F	M00055995B:A02	UC2-NormColon
1026	587106	1717.D15.gz43_218628	F	M00055996D:G02	UC2-NormColon
1027	419443	1717.I15.gz43_218633	F	M00056002D:E09	UC2-NormColon
1028	643440	1717.L15.gz43_218636	F	M00056006A:E04	UC2-NormColon
1029	555736	1717.M16.gz43_218653	F	M00056007A:B02	UC2-NormColon
1030	644210	1717.G17.gz43_218663	F	M00055999D:H04	UC2-NormColon
1031	449261	1717.I17.gz43_218665	F	M00056003A:A08	UC2-NormColon
1032	643498	1717.J17.gz43_218666	F	M00056004B:F04	UC2-NormColon
1033	517274	1717.P17.gz43_218672	F	M00056011B:A06	UC2-NormColon
1034	532307	1717.L18.gz43_218684	F	M00056006A:G09	UC2-NormColon
1035	643288	1717.A19.gz43_218689	F	M00055993A:E02	UC2-NormColon
1036	478025	1717.F19.gz43_218694	F	M00055999A:A04	UC2-NormColon
1037	447822	1717.G19.gz43_218695	F	M00056000A:B02	UC2-NormColon
1038	641580	1717.I19.gz43_218697	F	M00056003A:B07	UC2-NormColon
1039	489426	1717.P19.gz43_218704	F	M00056011B:E10	UC2-NormColon
1040	650534	1717.C20.gz43_218707	F	M00055995C:F05	UC2-NormColon
1041	644990	1717.E20.gz43_218709	F	M00055998A:F06	UC2-NormColon
1042	207530	1717.F20.gz43_218710	F	M00055999A:B07	UC2-NormColon
1043	645197	1717.I20.gz43_218713	F	M00056003A:C01	UC2-NormColon
1044	414739	1717.K20.gz43_218715	F	M00056005B:H08	UC2-NormColon
1045	592941	1717.L20.gz43_218716	F	M00056006B:B05	UC2-NormColon
1046	447556	1717.H21.gz43_218728	F	M00056001C:F07	UC2-NormColon
1047	238586	1717.N21.gz43_218734	F	M00056008B:E04	UC2-NormColon
1048	644612	1717.E22.gz43_218741	F	M00055998B:A04	UC2-NormColon
1049	646387	1717.F22.gz43_218742	F	M00055999A:H10	UC2-NormColon
1050	647443	1717.G22.gz43_218743	F	M00056000A:E11	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1051	555172	1717.P22.gz43_218752	F	M00056011C:D04	UC2-NormColon
1052	552846	1717.D23.gz43_218756	F	M00055997A:F04	UC2-NormColon
1053	639377	1717.B24.gz43_218770	F	M00055994C:F05	UC2-NormColon
1054	449713	1717.M24.gz43_218781	F	M00056007B:C10	UC2-NormColon
1055	456627	1717.N24.gz43_218782	F	M00056008B:G01	UC2-NormColon
1056	646143	1717.O24.gz43_218783	F	M00056009D:A02	UC2-NormColon
1057	639629	1718.H03.gz43_218827	F	M00056021C:H08	UC2-NormColon
1058	643744	1718.D04.gz43_218839	F	M00056016C:F11	UC2-NormColon
1059	397399	1718.P04.gz43_218851	F	M00056032B:H08	UC2-NormColon
1060	650391	1718.G06.gz43_218874	F	M00056020C:H03	UC2-NormColon
1061	447659	1718.N06.gz43_218881	F	M00056029D:D08	UC2-NormColon
1062	644967	1718.D07.gz43_218887	F	M00056016D:E02	UC2-NormColon
1063	545509	1718.G08.gz43_218906	F	M00056020D:D03	UC2-NormColon
1064	643975	1718.D09.gz43_218919	F	M00056017A:B08	UC2-NormColon
1065	645883	1718.M11.gz43_218960	F	M00056028D:F06	UC2-NormColon
1066	538808	1718.B12.gz43_218965	F	M00056013A:C09	UC2-NormColon
1067	425455	1718.P13.gz43_218995	F	M00056033A:C11	UC2-NormColon
1068	467057	1718.M20.gz43_219104	F	M00056029B:H03	UC2-NormColon
1069	640181	1718.B21.gz43_219109	F	M00056013D:D07	UC2-NormColon
1070	650348	1718.F23.gz43_219145	F	M00056020B:C09	UC2-NormColon
1071	451993	1718.P24.gz43_219171	F	M00056033C:H09	UC2-NormColon
1072	647976	1719.E01.gz43_219176	F	M00056039A:F04	UC2-NormColon
1073	557676	1719.I01.gz43_219180	F	M00056045A:D03	UC2-NormColon
1074	644639	1719.N01.gz43_219185	F	M00056050C:A09	UC2-NormColon
1075	644738	1719.J02.gz43_219197	F	M00056046A:B04	UC2-NormColon
1076	645973	1719.A03.gz43_219204	F	M00056033D:F06	UC2-NormColon
1077	550376	1719.B03.gz43_219205	F	M00056035B:A04	UC2-NormColon
1078	646088	1719.D03.gz43_219207	F	M00056037B:G02	UC2-NormColon
1079	506920	1719.P03.gz43_219219	F	M00056053A:F01	UC2-NormColon
1080	642198	1719.A04.gz43_219220	F	M00056033D:G07	UC2-NormColon
1081	649293	1719.E04.gz43_219224	F	M00056039B:C03	UC2-NormColon
1082	641193	1719.H04.gz43_219227	F	M00056043D:E03	UC2-NormColon
1083	461517	1719.J04.gz43_219229	F	M00056046A:B12	UC2-NormColon
1084	645070	1719.K04.gz43_219230	F	M00056046D:C11	UC2-NormColon
1085	645942	1719.M04.gz43_219232	F	M00056049B:E11	UC2-NormColon
1086	645151	1719.O05.gz43_219250	F	M00056051D:H02	UC2-NormColon
1087	566745	1719.B06.gz43_219253	F	M00056035B:D11	UC2-NormColon
1088	642184	1719.M06.gz43_219264	F	M00056049C:A08	UC2-NormColon
1089	649429	1719.O06.gz43_219266	F	M00056052A:A11	UC2-NormColon
1090	549786	1719.B07.gz43_219269	F	M00056035B:E10	UC2-NormColon
1091	452102	1719.J07.gz43_219277	F	M00056046A:G08	UC2-NormColon
1092	644819	1719.O07.gz43_219282	F	M00056052A:C07	UC2-NormColon



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1093	453804	1719.E08.gz43_219288	F	M00056039C:D05	UC2-NormColon
1094	650348	1719.K09.gz43_219310	F	M00056047A:E09	UC2-NormColon
1095	644894	1719.L09.gz43_219311	F	M00056048A:D12	UC2-NormColon
1096	646048	1719.A10.gz43_219316	F	M00056034A:G10	UC2-NormColon
1097	638912	1719.D10.gz43_219319	F	M00056037C:G11	UC2-NormColon
1098	644817	1719.F10.gz43_219321	F	M00056041B:F03	UC2-NormColon
1099	645973	1719.E11.gz43_219336	F	M00056039C:G05	UC2-NormColon
1100	643748	1719.M11.gz43_219344	F	M00056049C:H04	UC2-NormColon
1101	649259	1719.N11.gz43_219345	F	M00056051A:C03	UC2-NormColon
1102	642852	1719.E12.gz43_219352	F	M00056039C:H01	UC2-NormColon
1103	451544	1719.L12.gz43_219359	F	M00056048B:E01	UC2-NormColon
1104	528616	1719.N12.gz43_219361	F	M00056051A:H11	UC2-NormColon
1105	460727	1719.G13.gz43_219370	F	M00056043A:A09	UC2-NormColon
1106	468689	1719.C14.gz43_219382	F	M00056036D:B06	UC2-NormColon
1107	452729	1719.C15.gz43_219398	F	M00056036D:D01	UC2-NormColon
1108	481614	1719.D15.gz43_219399	F	M00056038B:G08	UC2-NormColon
1109	649900	1719.H15.gz43_219403	F	M00056044C:C01	UC2-NormColon
1110	645375	1719.N15.gz43_219409	F	M00056051B:B03	UC2-NormColon
1111	497101	1719.P15.gz43_219411	F	M00056053D:D07	UC2-NormColon
1112	556325	1719.G16.gz43_219418	F	M00056043A:H12	UC2-NormColon
1113	645431	1719.M16.gz43_219424	F	M00056049D:D03	UC2-NormColon
1114	452325	1719.A17.gz43_219428	F	M00056034C:D07	UC2-NormColon
1115	447645	1719.B17.gz43_219429	F	M00056035D:C08	UC2-NormColon
1116	644054	1719.C17.gz43_219430	F	M00056036D:F05	UC2-NormColon
1117	641715	1719.M17.gz43_219440	F	M00056049D:E01	UC2-NormColon
1118	644692	1719.P17.gz43_219443	F	M00056054A:B06	UC2-NormColon
1119	465589	1719.P18.gz43_219459	F	M00056054A:D09	UC2-NormColon
1120	643897	1719.G19.gz43_219466	F	M00056043B:E03	UC2-NormColon
1121	456840	1719.L19.gz43_219471	F	M00056048D:B09	UC2-NormColon
1122	467255	1719.P19.gz43_219475	F	M00056054A:E03	UC2-NormColon
1123	645530	1719.C20.gz43_219478	F	M00056037A:D11	UC2-NormColon
1124	648390	1719.A21.gz43_219492	F	M00056034C:H09	UC2-NormColon
1125	467597	1719.B21.gz43_219493	F	M00056035D:G10	UC2-NormColon
1126	468330	1719.D21.gz43_219495	F	M00056038D:F03	UC2-NormColon
1127	454438	1719.E21.gz43_219496	F	M00056040C:B03	UC2-NormColon
1128	402476	1719.I21.gz43_219500	F	M00056045D:C09	UC2-NormColon
1129	558439	1719.M21.gz43_219504	F	M00056050A:D02	UC2-NormColon
1130	595066	1719.N21.gz43_219505	F	M00056051C:C09	UC2-NormColon
1131	646687	1719.E22.gz43_219512	F	M00056040C:C12	UC2-NormColon
1132	452026	1719.H22.gz43_219515	F	M00056044D:F01	UC2-NormColon
1133	639255	1719.K22.gz43_219518	F	M00056047C:E03	UC2-NormColon
1134	612572	1719.L22.gz43_219519	F	M00056049A:C11	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1135	641786	1719.O22.gz43_219522	F	M00056052D:G01	UC2-NormColon
1136	647306	1719.P22.gz43_219523	F	M00056054A:G07	UC2-NormColon
1137	640559	1719.A23.gz43_219524	F	M00056034D:E09	UC2-NormColon
1138	550365	1719.D23.gz43_219527	F	M00056039A:A02	UC2-NormColon
1139	462293	1719.I23.gz43_219532	F	M00056045D:E06	UC2-NormColon
1140	587106	1719.N23.gz43_219537	F	M00056051C:H09	UC2-NormColon
1141	483266	1719.F24.gz43_219545	F	M00056042B:B05	UC2-NormColon
1142	490898	1719.G24.gz43_219546	F	M00056043C:G03	UC2-NormColon
1143	640603	1719.N24.gz43_219553	F	M00056051D:A07	UC2-NormColon
1144	643510	1720.G01.gz43_219562	F	M00056062D:F12	UC2-NormColon
1145	645049	1720.A02.gz43_219572	F	M00056054B:G05	UC2-NormColon
1146	466795	1720.C02.gz43_219574	F	M00056057B:D01	UC2-NormColon
1147	14157	1720.I02.gz43_219580	F	M00056066B:H04	UC2-NormColon
1148	558494	1720.A04.gz43_219604	F	M00056054C:C09	UC2-NormColon
1149	644927	1720.C04.gz43_219606	F	M00056057B:E12	UC2-NormColon
1150	648688	1720.C05.gz43_219622	F	M00056057C:B02	UC2-NormColon
1151	454906	1720.A06.gz43_219636	F	M00056054C:E12	UC2-NormColon
1152	644597	1720.D06.gz43_219639	F	M00056059A:A02	UC2-NormColon
1153	460047	1720.K06.gz43_219646	F	M00056069A:F01	UC2-NormColon
1154	62053	1720.C08.gz43_219670	F	M00056057C:D06	UC2-NormColon
1155	649054	1720.D08.gz43_219671	F	M00056059A:B01	UC2-NormColon
1156	644225	1720.K08.gz43_219678	F	M00056069A:F06	UC2-NormColon
1157	447635	1720.C09.gz43_219686	F	M00056057C:E01	UC2-NormColon
1158	642166	1720.E10.gz43_219704	F	M00056060D:H11	UC2-NormColon
1159	473007	1720.D11.gz43_219719	F	M00056059B:D10	UC2-NormColon
1160	551181	1720.M11.gz43_219728	F	M00056072B:C06	UC2-NormColon
1161	644928	1720.C12.gz43_219734	F	M00056057C:E12	UC2-NormColon
1162	644916	1720.E12.gz43_219736	F	M00056061A:E05	UC2-NormColon
1163	644701	1720.L12.gz43_219743	F	M00056070C:B09	UC2-NormColon
1164	487567	1720.O12.gz43_219746	F	M00056074C:H08	UC2-NormColon
1165	641801	1720.E13.gz43_219752	F	M00056061B:A03	UC2-NormColon
1166	651108	1720.O13.gz43_219762	F	M00056074C:H09	UC2-NormColon
1167	447676	1720.A14.gz43_219764	F	M00056055A:E04	UC2-NormColon
1168	645076	1720.K14.gz43_219774	F	M00056069B:E04	UC2-NormColon
1169	641469	1720.C15.gz43_219782	F	M00056057D:E11	UC2-NormColon
1170	375577	1720.G15.gz43_219786	F	M00056063C:F10	UC2-NormColon
1171	558154	1720.C16.gz43_219798	F	M00056058A:B07	UC2-NormColon
1172	650549	1720.G16.gz43_219802	F	M00056063C:G11	UC2-NormColon
1173	461351	1720.I16.gz43_219804	F	M00056066D:G04	UC2-NormColon
1174	640818	1720.A18.gz43_219828	F	M00056055B:B06	UC2-NormColon
1175	455716	1720.I18.gz43_219836	F	M00056067A:A12	UC2-NormColon
1176	644822	1720.J18.gz43_219837	F	M00056068D:A06	UC2-NormColon



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1219	649299	1731.F15.gz43_220169	F	M00056130C:C12	UC2-NormColon
1220	478393	1731.K15.gz43_220174	F	M00056137B:F11	UC2-NormColon
1221	647290	1731.F16.gz43_220185	F	M00056130C:F08	UC2-NormColon
1222	649735	1731.G16.gz43_220186	F	M00056131C:H03	UC2-NormColon
1223	646039	1731.J16.gz43_220189	F	M00056135C:C05	UC2-NormColon
1224	646581	1731.M16.gz43_220192	F	M00056140A:F12	UC2-NormColon
1225	470667	1731.N16.gz43_220193	F	M00056141C:H01	UC2-NormColon
1226	642650	1731.J17.gz43_220205	F	M00056135C:C08	UC2-NormColon
1227	642275	1731.K17.gz43_220206	F	M00056137C:A01	UC2-NormColon
1228	651015	1731.L17.gz43_220207	F	M00056138D:G08	UC2-NormColon
1229	642936	1731.H18.gz43_220219	F	M00056133B:F01	UC2-NormColon
1230	642204	1731.A19.gz43_220228	F	M00056121D:A12	UC2-NormColon
1231	557867	1731.J19.gz43_220237	F	M00056135C:H06	UC2-NormColon
1232	639395	1731.K19.gz43_220238	F	M00056137C:E01	UC2-NormColon
1233	645367	1731.K20.gz43_220254	F	M00056137C:G02	UC2-NormColon
1234	647232	1731.L20.gz43_220255	F	M00056139A:D12	UC2-NormColon
1235	647431	1731.E21.gz43_220264	F	M00056129A:G01	UC2-NormColon
1236	708175	1731.I21.gz43_220268	F	M00056134D:B07	UC2-NormColon
1237	503122	1731.A22.gz43_220276	F	M00056122A:A05	UC2-NormColon
1238	515350	1731.C22.gz43_220278	F	M00056124D:F06	UC2-NormColon
1239	556336	1731.F22.gz43_220281	F	M00056130D:E06	UC2-NormColon
1240	589098	1731.A23.gz43_220292	F	M00056122A:B05	UC2-NormColon
1241	531461	1731.B23.gz43_220293	F	M00056123B:F02	UC2-NormColon
1242	455808	1731.C23.gz43_220294	F	M00056124D:G03	UC2-NormColon
1243	643510	1731.D23.gz43_220295	F	M00056127D:G10	UC2-NormColon
1244	648996	1731.J23.gz43_220301	F	M00056136A:B11	UC2-NormColon
1245	446164	1731.N23.gz43_220305	F	M00056141D:E08	UC2-NormColon
1246	419114	1731.O23.gz43_220306	F	M00056143A:H08	UC2-NormColon
1247	648076	1731.A24.gz43_220308	F	M00056122A:D02	UC2-NormColon
1248	649482	1731.I24.gz43_220316	F	M00056134D:F02	UC2-NormColon
1249	646323	1732.H01.gz43_220331	F	M00056155B:A02	UC2-NormColon
1250	550714	1732.A05.gz43_220388	F	M00056146A:A09	UC2-NormColon
1251	649482	1732.J05.gz43_220397	F	M00056158C:D11	UC2-NormColon
1252	650987	1732.J06.gz43_220413	F	M00056158C:F09	UC2-NormColon
1253	644221	1732.F07.gz43_220425	F	M00056153A:G04	UC2-NormColon
1254	647412	1732.M07.gz43_220432	F	M00056162C:F02	UC2-NormColon
1255	416624	1732.I08.gz43_220444	F	M00056157A:B11	UC2-NormColon
1256	644801	1732.F09.gz43_220457	F	M00056153A:H07	UC2-NormColon
1257	650249	1732.G10.gz43_220474	F	M00056154B:F11	UC2-NormColon
1258	465734	1732.C11.gz43_220486	F	M00056149C:A02	UC2-NormColon
1259	605761	1732.E11.gz43_220488	F	M00056152A:B11	UC2-NormColon
1260	649782	1732.M11.gz43_220496	F	M00056162D:A01	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1261	449956	1732.A12.gz43_220500	F	M00056146A:H09	UC2-NormColon
1262	642244	1732.I12.gz43_220508	F	M00056157B:A08	UC2-NormColon
1263	650348	1732.L12.gz43_220511	F	M00056161C:G06	UC2-NormColon
1264	461135	1732.E13.gz43_220520	F	M00056152A:D07	UC2-NormColon
1265	16092	1732.L13.gz43_220527	F	M00056161C:H10	UC2-NormColon
1266	650116	1732.M13.gz43_220528	F	M00056162D:D03	UC2-NormColon
1267	650534	1732.O13.gz43_220530	F	M00056165C:B11	UC2-NormColon
1268	640634	1732.A14.gz43_220532	F	M00056146B:E05	UC2-NormColon
1269	446184	1732.I14.gz43_220540	F	M00056157B:H06	UC2-NormColon
1270	380477	1732.M14.gz43_220544	F	M00056162D:D06	UC2-NormColon
1271	463966	1732.K15.gz43_220558	F	M00056160C:F12	UC2-NormColon
1272	649578	1732.O15.gz43_220562	F	M00056165D:D09	UC2-NormColon
1273	650877	1732.C16.gz43_220566	F	M00056149C:E10	UC2-NormColon
1274	449882	1732.F16.gz43_220569	F	M00056153B:F11	UC2-NormColon
1275	650909	1732.J16.gz43_220573	F	M00056159A:E03	UC2-NormColon
1276	645100	1732.K16.gz43_220574	F	M00056160C:G01	UC2-NormColon
1277	649883	1732.M17.gz43_220592	F	M00056163A:B10	UC2-NormColon
1278	554581	1732.I19.gz43_220620	F	M00056157C:E10	UC2-NormColon
1279	467972	1732.L19.gz43_220623	F	M00056162A:B06	UC2-NormColon
1280	488592	1732.A20.gz43_220628	F	M00056146D:D04	UC2-NormColon
1281	651075	1732.E20.gz43_220632	F	M00056152C:G08	UC2-NormColon
1282	649991	1732.K20.gz43_220638	F	M00056160D:C06	UC2-NormColon
1283	649947	1732.L20.gz43_220639	F	M00056162A:C09	UC2-NormColon
1284	224092	1732.N20.gz43_220641	F	M00056164A:H03	UC2-NormColon
1285	555634	1732.L21.gz43_220655	F	M00056162A:E09	UC2-NormColon
1286	639485	1732.C22.gz43_220662	F	M00056149D:F06	UC2-NormColon
1287	646596	1732.I23.gz43_220684	F	M00056157D:H08	UC2-NormColon
1288	459260	1732.J23.gz43_220685	F	M00056159C:C11	UC2-NormColon
1289	634409	1732.L23.gz43_220687	F	M00056162A:F01	UC2-NormColon
1290	650820	1732.C24.gz43_220694	F	M00056150A:E04	UC2-NormColon
1291	559349	1741.M01.gz43_220720	F	M00056184C:C07	UC2-NormColon
1292	650063	1741.D02.gz43_220727	F	M00056171C:A08	UC2-NormColon
1293	492982	1741.J02.gz43_220733	F	M00056180B:D05	UC2-NormColon
1294	557353	1741.K02.gz43_220734	F	M00056182A:B04	UC2-NormColon
1295	649299	1741.G03.gz43_220746	F	M00056175D:E05	UC2-NormColon
1296	648063	1741.F04.gz43_220761	F	M00056174C:H09	UC2-NormColon
1297	641193	1741.J04.gz43_220765	F	M00056180B:F11	UC2-NormColon
1298	561856	1741.L04.gz43_220767	F	M00056183B:G11	UC2-NormColon
1299	642631	1741.M04.gz43_220768	F	M00056184C:E08	UC2-NormColon
1300	648344	1741.P04.gz43_220771	F	M00056188B:E07	UC2-NormColon
1301	458085	1741.B05.gz43_220773	F	M00056169C:F07	UC2-NormColon
1302	394772	1741.C06.gz43_220790	F	M00056170C:C09	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
1303	646699	1741.E07.gz43_220808	F	M00056173D:C05	UC2-NormColon
1304	593173	1741.G07.gz43_220810	F	M00056176A:D06	UC2-NormColon
1305	643206	1741.K07.gz43_220814	F	M00056182A:G11	UC2-NormColon
1306	646309	1741.M07.gz43_220816	F	M00056184C:H03	UC2-NormColon
1307	553023	1741.N07.gz43_220817	F	M00056185D:C01	UC2-NormColon
1308	649705	1741.O07.gz43_220818	F	M00056186D:G05	UC2-NormColon
1309	555771	1741.B08.gz43_220821	F	M00056169D:A03	UC2-NormColon
1310	379805	1741.I08.gz43_220828	F	M00056179A:D12	UC2-NormColon
1311	710362	1741.L08.gz43_220831	F	M00056183C:F01	UC2-NormColon
1312	650188	1741.P08.gz43_220835	F	M00056188C:D02	UC2-NormColon
1313	649795	1741.A09.gz43_220836	F	M00056168C:A05	UC2-NormColon
1314	460506	1741.K09.gz43_220846	F	M00056182B:G12	UC2-NormColon
1315	502683	1741.N09.gz43_220849	F	M00056185D:D06	UC2-NormColon
1316	453768	1741.F10.gz43_220857	F	M00056175A:A06	UC2-NormColon
1317	457272	1741.G10.gz43_220858	F	M00056176B:B05	UC2-NormColon
1318	378694	1741.J10.gz43_220861	F	M00056180D:E06	UC2-NormColon
1319	649136	1741.F11.gz43_220873	F	M00056175A:C04	UC2-NormColon
1320	555655	1741.M11.gz43_220880	F	M00056184D:D06	UC2-NormColon
1321	648777	1741.B12.gz43_220885	F	M00056169D:D05	UC2-NormColon
1322	446289	1741.G12.gz43_220890	F	M00056176B:E10	UC2-NormColon
1323	449452	1741.J12.gz43_220893	F	M00056180D:F05	UC2-NormColon
1324	648665	1741.P12.gz43_220899	F	M00056188C:H04	UC2-NormColon
1325	561747	1741.D14.gz43_220919	F	M00056172A:H06	UC2-NormColon
1326	646915	1741.E14.gz43_220920	F	M00056174B:D02	UC2-NormColon
1327	648865	1741.G14.gz43_220922	F	M00056176C:B11	UC2-NormColon
1328	639886	1741.I14.gz43_220924	F	M00056179B:H12	UC2-NormColon
1329	183842	1741.J14.gz43_220925	F	M00056180D:G07	UC2-NormColon
1330	469409	1741.K14.gz43_220926	F	M00056182C:F08	UC2-NormColon
1331	649702	1741.L14.gz43_220927	F	M00056184A:B11	UC2-NormColon
1332	646581	1741.N14.gz43_220929	F	M00056186A:B09	UC2-NormColon
1333	638730	1741.H15.gz43_220939	F	M00056178B:A11	UC2-NormColon
1334	641525	1741.K15.gz43_220942	F	M00056182D:A07	UC2-NormColon
1335	650800	1741.B16.gz43_220949	F	M00056169D:H05	UC2-NormColon
1336	647086	1741.E16.gz43_220952	F	M00056174B:E02	UC2-NormColon
1337	471836	1741.J16.gz43_220957	F	M00056181A:B05	UC2-NormColon
1338	640285	1741.E17.gz43_220968	F	M00056174B:E04	UC2-NormColon
1339	459923	1741.H17.gz43_220971	F	M00056178B:H08	UC2-NormColon
1340	452729	1741.J17.gz43_220973	F	M00056181A:E07	UC2-NormColon
1341	209414	1741.H18.gz43_220987	F	M00056178C:C02	UC2-NormColon
1342	463487	1741.L18.gz43_220991	F	M00056184B:D08	UC2-NormColon
1343	645288	1741.F19.gz43_221001	F	M00056175C:A10	UC2-NormColon
1344	640514	1741.J19.gz43_221005	F	M00056181B:B02	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
1345	459974	1741.K19.gz43_221006	F	M00056183A:B09	UC2-NormColon
1346	465594	1741.P19.gz43_221011	F	M00056189B:A01	UC2-NormColon
1347	646173	1741.C20.gz43_221014	F	M00056171A:H01	UC2-NormColon
1348	557010	1741.E20.gz43_221016	F	M00056174B:H11	UC2-NormColon
1349	650146	1741.F20.gz43_221017	F	M00056175C:B11	UC2-NormColon
1350	499690	1741.G20.gz43_221018	F	M00056177A:D12	UC2-NormColon
1351	584745	1741.H20.gz43_221019	F	M00056178C:E12	UC2-NormColon
1352	446987	1741.L20.gz43_221023	F	M00056184B:H08	UC2-NormColon
1353	458683	1741.A21.gz43_221028	F	M00056169B:C02	UC2-NormColon
1354	640922	1741.H21.gz43_221035	F	M00056178C:F02	UC2-NormColon
1355	561793	1741.J21.gz43_221037	F	M00056181B:E11	UC2-NormColon
1356	641945	1741.O21.gz43_221042	F	M00056188A:E05	UC2-NormColon
1357	645578	1741.J22.gz43_221053	F	M00056181C:D02	UC2-NormColon
1358	647688	1741.L22.gz43_221055	F	M00056184C:A09	UC2-NormColon
1359	610986	1741.G23.gz43_221066	F	M00056177A:H01	UC2-NormColon
1360	644053	1741.I23.gz43_221068	F	M00056180B:A06	UC2-NormColon
1361	639132	1741.M23.gz43_221072	F	M00056185B:B06	UC2-NormColon
1362	642256	1741.B24.gz43_221077	F	M00056170B:B09	UC2-NormColon
1363	648820	1741.F24.gz43_221081	F	M00056175D:A06	UC2-NormColon
1364	650975	1741.L24.gz43_221087	F	M00056184C:C03	UC2-NormColon
1365	644801	1741.N24.gz43_221089	F	M00056186B:H09	UC2-NormColon
1366	637387	1742.G01.gz43_221098	F	M00056198A:B05	UC2-NormColon
1367	642118	1742.P01.gz43_221107	F	M00056212C:C09	UC2-NormColon
1368	397363	1742.F03.gz43_221129	F	M00056196C:B03	UC2-NormColon
1369	463168	1742.J03.gz43_221133	F	M00056203D:F05	UC2-NormColon
1370	172843	1742.M03.gz43_221136	F	M00056208B:C10	UC2-NormColon
1371	570939	1742.J04.gz43_221149	F	M00056203D:H03	UC2-NormColon
1372	463545	1742.L04.gz43_221151	F	M00056206D:F07	UC2-NormColon
1373	456920	1742.J05.gz43_221165	F	M00056204A:B08	UC2-NormColon
1374	644916	1742.E06.gz43_221176	F	M00056195C:F12	UC2-NormColon
1375	559955	1742.M06.gz43_221184	F	M00056208C:A10	UC2-NormColon
1376	453762	1742.B08.gz43_221205	F	M00056191B:E08	UC2-NormColon
1377	640913	1742.I08.gz43_221212	F	M00056201C:C03	UC2-NormColon
1378	648590	1742.F09.gz43_221225	F	M00056196C:G12	UC2-NormColon
1379	470801	1742.N09.gz43_221233	F	M00056210B:C11	UC2-NormColon
1380	645223	1742.M11.gz43_221264	F	M00056208D:A12	UC2-NormColon
1381	649402	1742.E12.gz43_221272	F	M00056195D:D07	UC2-NormColon
1382	649354	1742.N12.gz43_221281	F	M00056210B:E03	UC2-NormColon
1383	650756	1742.K15.gz43_221326	F	M00056205D:G04	UC2-NormColon
1384	648754	1742.J18.gz43_221373	F	M00056204C:H12	UC2-NormColon
1385	645177	1742.K19.gz43_221390	F	M00056206B:A10	UC2-NormColon
1386	507050	1742.M19.gz43_221392	F	M00056209B:D02	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1387	646275	1742.P19.gz43_221395	F	M00056213C:C01	UC2-NormColon
1388	574166	1743.H01.gz43_221483	F	M00056223A:D10	UC2-NormColon
1389	649709	1743.H03.gz43_221515	F	M00056223A:H07	UC2-NormColon
1390	648155	1743.C04.gz43_221526	F	M00056217A:H11	UC2-NormColon
1391	578718	1743.K04.gz43_221534	F	M00056227D:A02	UC2-NormColon
1392	649272	1743.N04.gz43_221537	F	M00056232C:E06	UC2-NormColon
1393	648351	1743.D05.gz43_221543	F	M00056218C:C02	UC2-NormColon
1394	618670	1743.I06.gz43_221564	F	M00056225B:A11	UC2-NormColon
1395	706245	1743.P07.gz43_221587	F	M00056236A:G12	UC2-NormColon
1396	638807	1743.A08.gz43_221588	F	M00056214B:H03	UC2-NormColon
1397	562359	1743.C09.gz43_221606	F	M00056217B:G03	UC2-NormColon
1398	447892	1743.K09.gz43_221614	F	M00056228A:A02	UC2-NormColon
1399	502413	1743.N09.gz43_221617	F	M00056232D:C08	UC2-NormColon
1400	499517	1743.A10.gz43_221620	F	M00056214C:A04	UC2-NormColon
1401	570052	1743.G11.gz43_221642	F	M00056222A:E05	UC2-NormColon
1402	649351	1743.M11.gz43_221648	F	M00056231B:E01	UC2-NormColon
1403	650975	1743.A16.gz43_221716	F	M00056214D:F05	UC2-NormColon
1404	562625	1743.C16.gz43_221718	F	M00056217D:B07	UC2-NormColon
1405	644916	1743.E16.gz43_221720	F	M00056220A:H04	UC2-NormColon
1406	33738	1743.L16.gz43_221727	F	M00056229C:F05	UC2-NormColon
1407	645549	1743.H17.gz43_221739	F	M00056224B:F01	UC2-NormColon
1408	451487	1743.M21.gz43_221808	F	M00056232B:A11	UC2-NormColon
1409	448780	1743.C22.gz43_221814	F	M00056218A:G11	UC2-NormColon
1410	648816	1743.O22.gz43_221826	F	M00056235A:C12	UC2-NormColon
1411	648989	1743.G23.gz43_221834	F	M00056223A:B11	UC2-NormColon
1412	453470	1743.H23.gz43_221835	F	M00056224D:E08	UC2-NormColon
1413	649030	1743.M23.gz43_221840	F	M00056232B:C04	UC2-NormColon
1414	442347	1743.G24.gz43_221850	F	M00056223A:C03	UC2-NormColon
1415	645271	1744.O01.gz43_221874	F	M00056256A:C02	UC2-NormColon
1416	645872	1744.J02.gz43_221885	F	M00056249A:H07	UC2-NormColon
1417	651051	1744.N02.gz43_221889	F	M00056254A:F04	UC2-NormColon
1418	650463	1744.F03.gz43_221897	F	M00056244A:A01	UC2-NormColon
1419	506719	1744.J03.gz43_221901	F	M00056249B:C02	UC2-NormColon
1420	648989	1744.E04.gz43_221912	F	M00056242D:A02	UC2-NormColon
1421	703978	1744.A06.gz43_221940	F	M00056237B:D04	UC2-NormColon
1422	650661	1744.K07.gz43_221966	F	M00056250C:D05	UC2-NormColon
1423	419255	1744.H08.gz43_221979	F	M00056246C:G07	UC2-NormColon
1424	648996	1744.M08.gz43_221984	F	M00056253A:F12	UC2-NormColon
1425	451361	1744.N09.gz43_222001	F	M00056254D:C04	UC2-NormColon
1426	15296	1744.A10.gz43_222004	F	M00056237C:C05	UC2-NormColon
1427	649396	1744.C10.gz43_222006	F	M00056240B:F08	UC2-NormColon
1428	650860	1744.J10.gz43_222013	F	M00056249C:E06	UC2-NormColon



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1429	643327	1744.K14.gz43_222078	F	M00056251B:A12	UC2-NormColon
1430	639119	1744.M14.gz43_222080	F	M00056253B:H04	UC2-NormColon
1431	447272	1744.C15.gz43_222086	F	M00056240D:H07	UC2-NormColon
1432	452646	1744.K15.gz43_222094	F	M00056251B:B07	UC2-NormColon
1433	637387	1744.G17.gz43_222122	F	M00056246A:E01	UC2-NormColon
1434	162981	1744.H17.gz43_222123	F	M00056247A:D02	UC2-NormColon
1435	457221	1744.H18.gz43_222139	F	M00056247A:F07	UC2-NormColon
1436	703217	1744.M18.gz43_222144	F	M00056253C:C04	UC2-NormColon
1437	559324	1744.N18.gz43_222145	F	M00056255B:F09	UC2-NormColon
1438	707483	1744.A19.gz43_222148	F	M00056238A:A03	UC2-NormColon
1439	464091	1744.P19.gz43_222163	F	M00056258A:A11	UC2-NormColon
1440	645472	1744.N20.gz43_222177	F	M00056255C:C04	UC2-NormColon
1441	650018	1744.H21.gz43_222187	F	M00056247B:C11	UC2-NormColon
1442	651073	1744.E22.gz43_222200	F	M00056243C:G10	UC2-NormColon
1443	641874	1744.M23.gz43_222224	F	M00056253D:G04	UC2-NormColon
1444	610269	1744.P23.gz43_222227	F	M00056258A:E10	UC2-NormColon
1445	650463	1744.F24.gz43_222233	F	M00056245A:D11	UC2-NormColon
1446	650919	1744.I24.gz43_222236	F	M00056249A:F11	UC2-NormColon
1447	586794	1744.K24.gz43_222238	F	M00056251C:H04	UC2-NormColon
1448	642200	1753.K02.gz43_222270	F	M00056273A:A07	UC2-NormColon
1449	645271	1753.C03.gz43_222278	F	M00056261A:F12	UC2-NormColon
1450	528162	1753.J04.gz43_222301	F	M00056271C:C06	UC2-NormColon
1451	648609	1753.N05.gz43_222321	F	M00056277B:G05	UC2-NormColon
1452	213	1753.D06.gz43_222327	F	M00056262D:G08	UC2-NormColon
1453	648063	1753.E06.gz43_222328	F	M00056264B:C03	UC2-NormColon
1454	647828	1753.I06.gz43_222332	F	M00056270A:B09	UC2-NormColon
1455	476380	1753.L06.gz43_222335	F	M00056274D:E08	UC2-NormColon
1456	649262	1753.D10.gz43_222391	F	M00056263A:D08	UC2-NormColon
1457	648590	1753.A12.gz43_222420	F	M00056258D:H06	UC2-NormColon
1458	557857	1753.I12.gz43_222428	F	M00056270B:F02	UC2-NormColon
1459	649349	1753.P13.gz43_222451	F	M00056280B:E09	UC2-NormColon
1460	460245	1753.B14.gz43_222453	F	M00056260C:E11	UC2-NormColon
1461	648442	1753.M14.gz43_222464	F	M00056276A:F05	UC2-NormColon
1462	646609	1753.E15.gz43_222472	F	M00056265A:E01	UC2-NormColon
1463	562173	1753.G15.gz43_222474	F	M00056267D:B09	UC2-NormColon
1464	555021	1753.A17.gz43_222500	F	M00056259A:E08	UC2-NormColon
1465	486452	1753.D17.gz43_222503	F	M00056263B:E10	UC2-NormColon
1466	507066	1753.M17.gz43_222512	F	M00056276D:B12	UC2-NormColon
1467	649592	1753.O18.gz43_222530	F	M00056279B:G06	UC2-NormColon
1468	268336	1753.C23.gz43_222598	F	M00056262B:B08	UC2-NormColon
1469	509202	1753.P23.gz43_222611	F	M00056280D:C06	UC2-NormColon
1470	459914	1753.A24.gz43_222612	F	M00056259C:E03	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
1471	466894	1753.I24.gz43_222620	F	M00056271A:G04	UC2-NormColon
1472	647839	1754.D07.gz43_222727	F	M00056285B:B01	UC2-NormColon
1473	644862	1754.I07.gz43_222732	F	M00056292D:C06	UC2-NormColon
1474	492587	1754.K07.gz43_222734	F	M00056295C:F12	UC2-NormColon
1475	651057	1754.M07.gz43_222736	F	M00056298A:H02	UC2-NormColon
1476	554276	1754.E10.gz43_222776	F	M00056286C:H08	UC2-NormColon
1477	643984	1754.N10.gz43_222785	F	M00056299C:F06	UC2-NormColon
1478	646060	1754.H12.gz43_222811	F	M00056291B:G01	UC2-NormColon
1479	646387	1754.K12.gz43_222814	F	M00056296A:A07	UC2-NormColon
1480	462986	1754.N12.gz43_222817	F	M00056299D:A02	UC2-NormColon
1481	598471	1754.H19.gz43_222923	F	M00056291C:C11	UC2-NormColon
1482	449882	1754.I19.gz43_222924	F	M00056293B:F02	UC2-NormColon
1483	555998	1754.F20.gz43_222937	F	M00056289B:E05	UC2-NormColon
1484	419801	1754.J20.gz43_222941	F	M00056294B:G06	UC2-NormColon
1485	647462	1754.E21.gz43_222952	F	M00056287C:H08	UC2-NormColon
1486	648524	1754.F21.gz43_222953	F	M00056289B:F09	UC2-NormColon
1487	462865	1754.M22.gz43_222976	F	M00056298D:G01	UC2-NormColon
1488	645844	1754.O22.gz43_222978	F	M00056301C:H08	UC2-NormColon
1489	556497	1754.C23.gz43_222982	F	M00056284C:A11	UC2-NormColon
1490	467709	1754.L23.gz43_222991	F	M00056297D:B10	UC2-NormColon
1491	559857	1754.D24.gz43_222999	F	M00056286B:A04	UC2-NormColon
1492	651115	1754.N24.gz43_223009	F	M00056300B:A11	UC2-NormColon
1493	644660	1755.D05.gz43_223079	F	M00056307A:F07	UC2-NormColon
1494	647248	1755.N05.gz43_223089	F	M00056329C:B09	UC2-NormColon
1495	524261	1755.B06.gz43_223093	F	M00056305A:A02	UC2-NormColon
1496	556444	1755.K06.gz43_223102	F	M00056320C:E08	UC2-NormColon
1497	639378	1755.M08.gz43_223136	F	M00056326C:G07	UC2-NormColon
1498	460929	1755.O09.gz43_223154	F	M00056333A:E09	UC2-NormColon
1499	642260	1755.K10.gz43_223166	F	M00056320D:F07	UC2-NormColon
1500	635062	1755.I11.gz43_223180	F	M00056319A:A11	UC2-NormColon
1501	644880	1755.B14.gz43_223221	F	M00056305B:F09	UC2-NormColon
1502	452075	1755.N14.gz43_223233	F	M00056330B:C02	UC2-NormColon
1503	557052	1755.E15.gz43_223240	F	M00056310A:C10	UC2-NormColon
1504	569195	1755.K15.gz43_223246	F	M00056323A:G03	UC2-NormColon
1505	444222	1755.M16.gz43_223264	F	M00056328B:E07	UC2-NormColon
1506	467364	1755.A17.gz43_223268	F	M00056304A:H04	UC2-NormColon
1507	446910	1755.A18.gz43_223284	F	M00056304B:C05	UC2-NormColon
1508	447126	1755.M19.gz43_223312	F	M00056328D:B01	UC2-NormColon
1509	650639	1755.D20.gz43_223319	F	M00056308A:C01	UC2-NormColon
1510	641681	1755.B22.gz43_223349	F	M00056305D:E08	UC2-NormColon
1511	606129	1755.P24.gz43_223395	F	M00056338B:B08	UC2-NormColon
1512	448412	1766.A01.gz43_224099	F	M00042346A:B04	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1513	485237	1766.E01.gz43_224103	F	M00042432D:G02	UC2-PrimColon
1514	479131	1766.G01.gz43_224105	F	M00042437B:A11	UC2-PrimColon
1515	481457	1766.H03.gz43_224138	F	M00042439A:D09	UC2-PrimColon
1516	448892	1766.A09.gz43_224227	F	M00042346C:G12	UC2-PrimColon
1517	477797	1766.E13.gz43_224295	F	M00042433C:H05	UC2-PrimColon
1518	450212	1766.I19.gz43_224395	F	M00042462A:F12	UC2-PrimColon
1519	3781	1766.J21.gz43_224428	F	M00042464A:F06	UC2-PrimColon
1520	447377	1766.M22.gz43_224447	F	M00042470B:H11	UC2-PrimColon
1521	453606	1767.H01.gz43_224490	F	M00042764B:B10	UC2-PrimColon
1522	472101	1767.O02.gz43_224513	F	M00042777B:B05	UC2-PrimColon
1523	284586	1767.D03.gz43_224518	F	M00042756B:B01	UC2-PrimColon
1524	449689	1767.M03.gz43_224527	F	M00042773A:H11	UC2-PrimColon
1525	449215	1767.A04.gz43_224531	F	M00042515D:B11	UC2-PrimColon
1526	128749	1767.I04.gz43_224539	F	M00042766A:D07	UC2-PrimColon
1527	451982	1767.A05.gz43_224547	F	M00042515D:G01	UC2-PrimColon
1528	448251	1767.H05.gz43_224554	F	M00042764C:B10	UC2-PrimColon
1529	449437	1767.J05.gz43_224556	F	M00042767D:D02	UC2-PrimColon
1530	482876	1767.K05.gz43_224557	F	M00042769B:E12	UC2-PrimColon
1531	481614	1767.C06.gz43_224565	F	M00042755A:D09	UC2-PrimColon
1532	486547	1767.M06.gz43_224575	F	M00042773B:H08	UC2-PrimColon
1533	179760	1767.A07.gz43_224579	F	M00042751B:C07	UC2-PrimColon
1534	484633	1767.I08.gz43_224603	F	M00042766B:G11	UC2-PrimColon
1535	479851	1767.K08.gz43_224605	F	M00042769C:B01	UC2-PrimColon
1536	470801	1767.G09.gz43_224617	F	M00042763B:A03	UC2-PrimColon
1537	486452	1767.J09.gz43_224620	F	M00042768A:H09	UC2-PrimColon
1538	479868	1767.K09.gz43_224621	F	M00042769C:B06	UC2-PrimColon
1539	485880	1767.C10.gz43_224629	F	M00042755A:H04	UC2-PrimColon
1540	456513	1767.J11.gz43_224652	F	M00042768B:F02	UC2-PrimColon
1541	473433	1767.O11.gz43_224657	F	M00042778A:C04	UC2-PrimColon
1542	481594	1767.C12.gz43_224661	F	M00042755B:D01	UC2-PrimColon
1543	477521	1767.F12.gz43_224664	F	M00042761C:G11	UC2-PrimColon
1544	485073	1767.L12.gz43_224670	F	M00042771B:G05	UC2-PrimColon
1545	480960	1767.B13.gz43_224676	F	M00042753B:C08	UC2-PrimColon
1546	449215	1767.A14.gz43_224691	F	M00042751D:D03	UC2-PrimColon
1547	450551	1767.I14.gz43_224699	F	M00042766D:C05	UC2-PrimColon
1548	481057	1767.M14.gz43_224703	F	M00042774B:C01	UC2-PrimColon
1549	449076	1767.D15.gz43_224710	F	M00042757A:H07	UC2-PrimColon
1550	477098	1767.E15.gz43_224711	F	M00042760A:G12	UC2-PrimColon
1551	482486	1767.J15.gz43_224716	F	M00042768C:E06	UC2-PrimColon
1552	449438	1767.K15.gz43_224717	F	M00042770A:D02	UC2-PrimColon
1553	448260	1767.O15.gz43_224721	F	M00042778B:B07	UC2-PrimColon
1554	453385	1767.P15.gz43_224722	F	M00042779D:D04	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1555	484355	1767.A16.gz43_224723	F	M00042751D:F09	UC2-PrimColon
1556	485882	1767.C16.gz43_224725	F	M00042755B:H04	UC2-PrimColon
1557	449592	1767.L16.gz43_224734	F	M00042771D:F02	UC2-PrimColon
1558	449261	1767.M16.gz43_224735	F	M00042774C:B09	UC2-PrimColon
1559	485907	1767.C17.gz43_224741	F	M00042755B:H11	UC2-PrimColon
1560	474580	1767.F17.gz43_224744	F	M00042761D:D12	UC2-PrimColon
1561	448152	1767.N17.gz43_224752	F	M00042776D:D01	UC2-PrimColon
1562	474823	1767.P17.gz43_224754	F	M00042779D:E06	UC2-PrimColon
1563	453024	1767.E18.gz43_224759	F	M00042760B:E12	UC2-PrimColon
1564	479880	1767.I18.gz43_224763	F	M00042767A:B10	UC2-PrimColon
1565	477399	1767.N18.gz43_224768	F	M00042776D:G10	UC2-PrimColon
1566	485441	1767.A19.gz43_224771	F	M00042751D:G09	UC2-PrimColon
1567	485183	1767.B19.gz43_224772	F	M00042753C:G12	UC2-PrimColon
1568	452104	1767.C19.gz43_224773	F	M00042755C:A10	UC2-PrimColon
1569	449275	1767.A20.gz43_224787	F	M00042752A:B04	UC2-PrimColon
1570	447218	1767.L20.gz43_224798	F	M00042772C:C12	UC2-PrimColon
1571	472119	1767.N20.gz43_224800	F	M00042777A:B10	UC2-PrimColon
1572	482868	1767.I21.gz43_224811	F	M00042767B:E10	UC2-PrimColon
1573	455143	1767.F22.gz43_224824	F	M00042762A:G02	UC2-PrimColon
1574	484964	1767.I22.gz43_224827	F	M00042767B:G04	UC2-PrimColon
1575	448325	1767.D23.gz43_224838	F	M00042758B:C06	UC2-PrimColon
1576	484987	1767.I23.gz43_224843	F	M00042767B:G09	UC2-PrimColon
1577	475797	1767.O23.gz43_224849	F	M00042778D:F11	UC2-PrimColon
1578	477757	1767.P24.gz43_224866	F	M00042780A:H05	UC2-PrimColon
1579	448233	1778.D01.gz43_225254	F	M00042842A:B12	UC2-PrimColon
1580	475111	1778.B02.gz43_225268	F	M00042838A:E02	UC2-PrimColon
1581	449403	1778.N02.gz43_225280	F	M00042859B:D06	UC2-PrimColon
1582	449604	1778.O02.gz43_225281	F	M00042860D:F02	UC2-PrimColon
1583	447983	1778.F03.gz43_225288	F	M00042845C:A09	UC2-PrimColon
1584	484091	1778.O03.gz43_225297	F	M00042860D:F05	UC2-PrimColon
1585	480900	1778.J04.gz43_225308	F	M00042852B:C06	UC2-PrimColon
1586	551811	1778.K04.gz43_225309	F	M00042854A:B11	UC2-PrimColon
1587	485841	1778.L05.gz43_225326	F	M00042855B:H06	UC2-PrimColon
1588	476256	1778.C07.gz43_225349	F	M00042839D:F02	UC2-PrimColon
1589	447983	1778.E07.gz43_225351	F	M00042844A:D02	UC2-PrimColon
1590	725641	1778.K07.gz43_225357	F	M00042854A:D05	UC2-PrimColon
1591	484789	1778.L08.gz43_225374	F	M00042855C:G11	UC2-PrimColon
1592	449110	1778.L09.gz43_225390	F	M00042855D:A12	UC2-PrimColon
1593	451368	1778.O09.gz43_225393	F	M00042861A:F04	UC2-PrimColon
1594	449521	1778.P09.gz43_225394	F	M00042862C:E02	UC2-PrimColon
1595	727875	1778.G10.gz43_225401	F	M00042847A:F04	UC2-PrimColon
1596	449273	1778.I11.gz43_225419	F	M00042851A:B08	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
1597	449652	1778.M11.gz43_225423	F	M00042857C:G04	UC2-PrimColon
1598	481664	1778.N11.gz43_225424	F	M00042859D:D12	UC2-PrimColon
1599	448230	1778.E12.gz43_225431	F	M00042844C:B03	UC2-PrimColon
1600	485029	1778.H12.gz43_225434	F	M00042849B:G06	UC2-PrimColon
1601	483274	1778.I12.gz43_225435	F	M00042851A:E11	UC2-PrimColon
1602	644190	1778.J12.gz43_225436	F	M00042853A:G03	UC2-PrimColon
1603	725266	1778.K12.gz43_225437	F	M00042854B:F05	UC2-PrimColon
1604	480005	1778.L12.gz43_225438	F	M00042855D:B12	UC2-PrimColon
1605	484841	1778.M12.gz43_225439	F	M00042857C:G05	UC2-PrimColon
1606	480641	1778.N12.gz43_225440	F	M00042860A:C01	UC2-PrimColon
1607	481319	1778.O13.gz43_225457	F	M00042861C:C03	UC2-PrimColon
1608	387077	1778.C14.gz43_225461	F	M00042840C:B12	UC2-PrimColon
1609	456737	1778.L14.gz43_225470	F	M00042855D:D06	UC2-PrimColon
1610	479084	1778.M14.gz43_225471	F	M00042858A:A08	UC2-PrimColon
1611	484468	1778.O15.gz43_225489	F	M00042861C:F07	UC2-PrimColon
1612	450673	1778.C18.gz43_225525	F	M00042841B:H05	UC2-PrimColon
1613	474597	1778.D18.gz43_225526	F	M00042843A:E07	UC2-PrimColon
1614	477593	1778.E18.gz43_225527	F	M00042844D:H02	UC2-PrimColon
1615	452990	1778.I18.gz43_225531	F	M00042851D:B08	UC2-PrimColon
1616	449407	1778.O18.gz43_225537	F	M00042861D:D09	UC2-PrimColon
1617	448104	1778.E19.gz43_225543	F	M00042845A:B05	UC2-PrimColon
1618	453856	1778.D22.gz43_225590	F	M00042843B:F05	UC2-PrimColon
1619	475942	1778.B23.gz43_225604	F	M00042839B:F05	UC2-PrimColon
1620	639991	1778.F23.gz43_225608	F	M00042846C:D09	UC2-PrimColon
1621	480640	1778.O23.gz43_225617	F	M00042862A:C01	UC2-PrimColon
1622	472307	1778.C24.gz43_225621	F	M00042842A:B04	UC2-PrimColon
1623	733806	1780.I01.gz43_226027	F	M00056361A:C01	UC2-PrimColon
1624	732150	1780.E02.gz43_226039	F	M00056356C:H07	UC2-PrimColon
1625	724907	1780.K02.gz43_226045	F	M00056363A:C06	UC2-PrimColon
1626	724792	1780.L02.gz43_226046	F	M00056364A:B04	UC2-PrimColon
1627	736210	1780.B04.gz43_226068	F	M00056353C:E12	UC2-PrimColon
1628	623978	1780.G05.gz43_226089	F	M00056359A:C08	UC2-PrimColon
1629	600856	1780.I05.gz43_226091	F	M00056361A:H06	UC2-PrimColon
1630	364334	1780.K05.gz43_226093	F	M00056363A:E10	UC2-PrimColon
1631	661194	1780.P05.gz43_226098	F	M00056368B:H09	UC2-PrimColon
1632	416326	1780.G06.gz43_226105	F	M00056359A:F06	UC2-PrimColon
1633	727129	1780.D07.gz43_226118	F	M00056355D:A05	UC2-PrimColon
1634	560859	1780.O07.gz43_226129	F	M00056367C:D06	UC2-PrimColon
1635	482831	1780.P07.gz43_226130	F	M00056368C:E07	UC2-PrimColon
1636	503862	1780.L08.gz43_226142	F	M00056364C:B01	UC2-PrimColon
1637	468467	1780.D09.gz43_226150	F	M00056355D:B08	UC2-PrimColon
1638	594994	1780.A10.gz43_226163	F	M00056352D:H02	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1639	463966	1780.C10.gz43_226165	F	M00056355A:C10	UC2-PrimColon
1640	471646	1780.I10.gz43_226171	F	M00056361B:E02	UC2-PrimColon
1641	731925	1780.B11.gz43_226180	F	M00056353D:D10	UC2-PrimColon
1642	480924	1780.M11.gz43_226191	F	M00056365B:G10	UC2-PrimColon
1643	517298	1780.P11.gz43_226194	F	M00056368D:D03	UC2-PrimColon
1644	734150	1780.F12.gz43_226200	F	M00056358A:G05	UC2-PrimColon
1645	528981	1780.H12.gz43_226202	F	M00056360B:D09	UC2-PrimColon
1646	135364	1780.I12.gz43_226203	F	M00056361C:C06	UC2-PrimColon
1647	511606	1780.J12.gz43_226204	F	M00056362C:C02	UC2-PrimColon
1648	552891	1780.K14.gz43_226237	F	M00056363C:C12	UC2-PrimColon
1649	730301	1780.P14.gz43_226242	F	M00056368D:G05	UC2-PrimColon
1650	480005	1780.H15.gz43_226250	F	M00056360C:B01	UC2-PrimColon
1651	588959	1780.L15.gz43_226254	F	M00056364C:H08	UC2-PrimColon
1652	557029	1780.C16.gz43_226261	F	M00056355B:D02	UC2-PrimColon
1653	553244	1780.L17.gz43_226286	F	M00056364D:C05	UC2-PrimColon
1654	456535	1780.O20.gz43_226337	F	M00056368A:C11	UC2-PrimColon
1655	728774	1780.K22.gz43_226365	F	M00056363D:H03	UC2-PrimColon
1656	724039	1780.E23.gz43_226375	F	M00056357C:C06	UC2-PrimColon
1657	732144	1780.H23.gz43_226378	F	M00056360D:H10	UC2-PrimColon
1658	724257	1789.G01.gz43_226409	F	M00056375D:D12	UC2-PrimColon
1659	474346	1789.M01.gz43_226415	F	M00056384C:H04	UC2-PrimColon
1660	376342	1789.N01.gz43_226416	F	M00056386A:F08	UC2-PrimColon
1661	475682	1789.P01.gz43_226418	F	M00056388B:A05	UC2-PrimColon
1662	734646	1789.B02.gz43_226420	F	M00056370B:C10	UC2-PrimColon
1663	186372	1789.M02.gz43_226431	F	M00056384D:A04	UC2-PrimColon
1664	736001	1789.A03.gz43_226435	F	M00056369B:E03	UC2-PrimColon
1665	487079	1789.F03.gz43_226440	F	M00056374C:G08	UC2-PrimColon
1666	460284	1789.H03.gz43_226442	F	M00056377A:C01	UC2-PrimColon
1667	725274	1789.I03.gz43_226443	F	M00056377D:F08	UC2-PrimColon
1668	553035	1789.N03.gz43_226448	F	M00056386A:G01	UC2-PrimColon
1669	724009	1789.P03.gz43_226450	F	M00056388B:B03	UC2-PrimColon
1670	568484	1789.B04.gz43_226452	F	M00056370B:E07	UC2-PrimColon
1671	725321	1789.L04.gz43_226462	F	M00056383B:F08	UC2-PrimColon
1672	731542	1789.K05.gz43_226477	F	M00056382C:F11	UC2-PrimColon
1673	725448	1789.L06.gz43_226494	F	M00056383B:G08	UC2-PrimColon
1674	452806	1789.N06.gz43_226496	F	M00056386B:A07	UC2-PrimColon
1675	549790	1789.L07.gz43_226510	F	M00056383C:E07	UC2-PrimColon
1676	730660	1789.N07.gz43_226512	F	M00056386B:A11	UC2-PrimColon
1677	503625	1789.B08.gz43_226516	F	M00056370C:F01	UC2-PrimColon
1678	725381	1789.E09.gz43_226535	F	M00056373D:G01	UC2-PrimColon
1679	649411	1789.G09.gz43_226537	F	M00056376A:C10	UC2-PrimColon
1680	729993	1789.I09.gz43_226539	F	M00056378C:E10	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1681	727523	1789.M10.gz43_226559	F	M00056385A:A07	UC2-PrimColon
1682	459918	1789.N10.gz43_226560	F	M00056386B:D07	UC2-PrimColon
1683	735649	1789.B11.gz43_226564	F	M00056370D:C06	UC2-PrimColon
1684	734348	1789.F11.gz43_226568	F	M00056375A:D11	UC2-PrimColon
1685	558412	1789.O11.gz43_226577	F	M00056387C:D01	UC2-PrimColon
1686	724694	1789.H12.gz43_226586	F	M00056377C:A01	UC2-PrimColon
1687	723972	1789.J12.gz43_226588	F	M00056382A:A12	UC2-PrimColon
1688	623408	1789.N12.gz43_226592	F	M00056386B:E09	UC2-PrimColon
1689	640158	1790.F01.gz43_226792	F	M00056394C:D07	UC2-PrimColon
1690	725095	1790.J02.gz43_226812	F	M00056398C:D10	UC2-PrimColon
1691	562769	1790.O02.gz43_226817	F	M00056404D:G03	UC2-PrimColon
1692	479851	1790.L03.gz43_226830	F	M00056400C:G04	UC2-PrimColon
1693	481077	1790.N03.gz43_226832	F	M00056403C:F02	UC2-PrimColon
1694	656268	1790.K04.gz43_226845	F	M00056399D:C11	UC2-PrimColon
1695	724411	1790.N04.gz43_226848	F	M00056403C:F03	UC2-PrimColon
1696	640261	1790.N05.gz43_226864	F	M00056403C:F12	UC2-PrimColon
1697	426297	1790.D07.gz43_226886	F	M00056392D:C05	UC2-PrimColon
1698	649591	1790.M07.gz43_226895	F	M00056402C:B09	UC2-PrimColon
1699	729111	1790.D08.gz43_226902	F	M00056392D:H02	UC2-PrimColon
1700	733563	1790.G08.gz43_226905	F	M00056396A:D03	UC2-PrimColon
1701	729637	1790.A10.gz43_226931	F	M00056389B:H03	UC2-PrimColon
1702	726494	1790.K10.gz43_226941	F	M00056400A:D08	UC2-PrimColon
1703	724714	1790.M10.gz43_226943	F	M00056402D:A01	UC2-PrimColon
1704	543323	1790.P10.gz43_226946	F	M00056406C:D09	UC2-PrimColon
1705	556769	1790.B11.gz43_226948	F	M00056390C:B08	UC2-PrimColon
1706	209	1790.M11.gz43_226959	F	M00056402D:B07	UC2-PrimColon
1707	724914	1790.B12.gz43_226964	F	M00056390C:C04	UC2-PrimColon
1708	614463	1790.D12.gz43_226966	F	M00056393A:G06	UC2-PrimColon
1709	474981	1790.G12.gz43_226969	F	M00056396A:G10	UC2-PrimColon
1710	729950	1790.L12.gz43_226974	F	M00056401A:F09	UC2-PrimColon
1711	640756	1790.N12.gz43_226976	F	M00056404A:G03	UC2-PrimColon
1712	449228	1790.O13.gz43_226993	F	M00056405C:H04	UC2-PrimColon
1713	423420	1790.P13.gz43_226994	F	M00056406C:F12	UC2-PrimColon
1714	727150	1790.C14.gz43_226997	F	M00056391C:H12	UC2-PrimColon
1715	503173	1790.E14.gz43_226999	F	M00056394B:C11	UC2-PrimColon
1716	188309	1790.N14.gz43_227008	F	M00056404B:B06	UC2-PrimColon
1717	448758	1790.J15.gz43_227020	F	M00056399B:G09	UC2-PrimColon
1718	735234	1790.L15.gz43_227022	F	M00056401B:B01	UC2-PrimColon
1719	483147	1790.P15.gz43_227026	F	M00056407A:D10	UC2-PrimColon
1720	642985	1790.G16.gz43_227033	F	M00056396B:E10	UC2-PrimColon
1721	725451	1790.K16.gz43_227037	F	M00056400A:G10	UC2-PrimColon
1722	729809	1790.P16.gz43_227042	F	M00056407A:G03	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1723	495712	1790.A17.gz43_227043	F	M00056389D:F01	UC2-PrimColon
1724	730948	1790.O17.gz43_227057	F	M00056405D:E05	UC2-PrimColon
1725	457508	1790.C18.gz43_227061	F	M00056391D:E06	UC2-PrimColon
1726	417549	1790.M18.gz43_227071	F	M00056403A:E09	UC2-PrimColon
1727	725454	1790.E19.gz43_227079	F	M00056394B:G05	UC2-PrimColon
1728	448817	1790.C20.gz43_227093	F	M00056392A:F06	UC2-PrimColon
1729	726411	1790.O20.gz43_227105	F	M00056406A:C02	UC2-PrimColon
1730	558794	1790.D21.gz43_227110	F	M00056393D:A09	UC2-PrimColon
1731	641687	1790.P21.gz43_227122	F	M00056409A:C03	UC2-PrimColon
1732	733643	1790.N22.gz43_227136	F	M00056404C:C12	UC2-PrimColon
1733	523364	1790.F23.gz43_227144	F	M00056395C:H03	UC2-PrimColon
1734	468467	1790.M23.gz43_227151	F	M00056403B:D09	UC2-PrimColon
1735	402799	1790.O23.gz43_227153	F	M00056406A:E01	UC2-PrimColon
1736	470462	1790.P23.gz43_227154	F	M00056409A:D03	UC2-PrimColon
1737	118514	1790.D24.gz43_227158	F	M00056393D:C12	UC2-PrimColon
1738	732821	1790.F24.gz43_227160	F	M00056395D:B01	UC2-PrimColon
1739	447222	1790.K24.gz43_227165	F	M00056400C:B11	UC2-PrimColon
1740	729779	1790.M24.gz43_227167	F	M00056403B:G12	UC2-PrimColon
1741	727633	1790.P24.gz43_227170	F	M00056409A:D06	UC2-PrimColon
1742	475797	1791.F01.gz43_227176	F	M00056415A:D03	UC2-PrimColon
1743	648170	1791.G01.gz43_227177	F	M00056416B:B11	UC2-PrimColon
1744	472684	1791.I01.gz43_227179	F	M00056418A:G09	UC2-PrimColon
1745	477718	1791.O02.gz43_227201	F	M00056423D:H07	UC2-PrimColon
1746	729784	1791.A03.gz43_227203	F	M00056409B:C12	UC2-PrimColon
1747	402471	1791.F03.gz43_227208	F	M00056415B:B10	UC2-PrimColon
1748	453762	1791.K03.gz43_227213	F	M00056419D:G04	UC2-PrimColon
1749	511149	1791.M03.gz43_227215	F	M00056422B:A08	UC2-PrimColon
1750	727090	1791.G04.gz43_227225	F	M00056416B:H01	UC2-PrimColon
1751	560957	1791.K04.gz43_227229	F	M00056420A:C01	UC2-PrimColon
1752	727845	1791.M04.gz43_227231	F	M00056422B:C12	UC2-PrimColon
1753	642170	1791.H05.gz43_227242	F	M00056417B:D05	UC2-PrimColon
1754	128749	1791.K05.gz43_227245	F	M00056420A:C12	UC2-PrimColon
1755	736632	1791.P05.gz43_227250	F	M00056424D:C08	UC2-PrimColon
1756	542957	1791.J07.gz43_227276	F	M00056419A:F08	UC2-PrimColon
1757	733490	1791.O08.gz43_227297	F	M00056424A:F05	UC2-PrimColon
1758	649722	1791.O09.gz43_227313	F	M00056424A:F12	UC2-PrimColon
1759	562137	1791.L11.gz43_227342	F	M00056421C:E06	UC2-PrimColon
1760	729199	1791.G12.gz43_227353	F	M00056416D:C08	UC2-PrimColon
1761	730178	1791.L12.gz43_227358	F	M00056421C:E12	UC2-PrimColon
1762	435349	1791.G13.gz43_227369	F	M00056416D:D12	UC2-PrimColon
1763	723963	1791.P13.gz43_227378	F	M00056425B:B02	UC2-PrimColon
1764	725408	1791.H14.gz43_227386	F	M00056417C:G10	UC2-PrimColon



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1765	500253	1791.L14.gz43_227390	F	M00056421C:H01	UC2-PrimColon
1766	644723	1791.N14.gz43_227392	F	M00056423C:G05	UC2-PrimColon
1767	474965	1791.M15.gz43_227407	F	M00056422C:B10	UC2-PrimColon
1768	724024	1791.N17.gz43_227440	F	M00056423D:B06	UC2-PrimColon
1769	27083	1791.D18.gz43_227446	F	M00056413B:D07	UC2-PrimColon
1770	729899	1791.E18.gz43_227447	F	M00056414C:H08	UC2-PrimColon
1771	728986	1791.G18.gz43_227449	F	M00056416D:H10	UC2-PrimColon
1772	640744	1791.A19.gz43_227459	F	M00056410A:A04	UC2-PrimColon
1773	703978	1791.B19.gz43_227460	F	M00056411B:D01	UC2-PrimColon
1774	725408	1791.O19.gz43_227473	F	M00056424C:B10	UC2-PrimColon
1775	725407	1791.H20.gz43_227482	F	M00056417D:G09	UC2-PrimColon
1776	736507	1791.K21.gz43_227501	F	M00056420C:E08	UC2-PrimColon
1777	555359	1791.O21.gz43_227505	F	M00056424C:F02	UC2-PrimColon
1778	724773	1791.C22.gz43_227509	F	M00056412B:B08	UC2-PrimColon
1779	724220	1791.P22.gz43_227522	F	M00056425D:D08	UC2-PrimColon
1780	641383	1791.A23.gz43_227523	F	M00056410B:A09	UC2-PrimColon
1781	562581	1791.K23.gz43_227533	F	M00056420D:A09	UC2-PrimColon
1782	726768	1791.P23.gz43_227538	F	M00056425D:H01	UC2-PrimColon
1783	729579	1791.H24.gz43_227546	F	M00056418A:G01	UC2-PrimColon
1784	498194	1791.L24.gz43_227550	F	M00056422A:F07	UC2-PrimColon
1785	288134	1791.N24.gz43_227552	F	M00056423D:F10	UC2-PrimColon
1786	553983	1792.P01.gz43_227582	F	M00056486B:G02	UC2-PrimColon
1787	724400	1792.E03.gz43_227603	F	M00056433B:A09	UC2-PrimColon
1788	645476	1792.J05.gz43_227640	F	M00056479C:E04	UC2-PrimColon
1789	556115	1792.D06.gz43_227650	F	M00056432A:A01	UC2-PrimColon
1790	734287	1792.F06.gz43_227652	F	M00056434C:B01	UC2-PrimColon
1791	725584	1792.I07.gz43_227671	F	M00056478C:H01	UC2-PrimColon
1792	725006	1792.P07.gz43_227678	F	M00056486D:A12	UC2-PrimColon
1793	731158	1792.A09.gz43_227695	F	M00056426B:G12	UC2-PrimColon
1794	592186	1792.B09.gz43_227696	F	M00056428A:F10	UC2-PrimColon
1795	452618	1792.M09.gz43_227707	F	M00056483A:F10	UC2-PrimColon
1796	725238	1792.G10.gz43_227717	F	M00056476C:E05	UC2-PrimColon
1797	727948	1792.P10.gz43_227726	F	M00056486D:F04	UC2-PrimColon
1798	452981	1792.A11.gz43_227727	F	M00056426C:G05	UC2-PrimColon
1799	710362	1792.B11.gz43_227728	F	M00056428B:B01	UC2-PrimColon
1800	480005	1792.C11.gz43_227729	F	M00056429D:E02	UC2-PrimColon
1801	471931	1792.P11.gz43_227742	F	M00056487A:C10	UC2-PrimColon
1802	725454	1792.H12.gz43_227750	F	M00056477C:G09	UC2-PrimColon
1803	729584	1792.I12.gz43_227751	F	M00056478D:G02	UC2-PrimColon
1804	725210	1792.N12.gz43_227756	F	M00056484B:E11	UC2-PrimColon
1805	462687	1792.P12.gz43_227758	F	M00056487A:D01	UC2-PrimColon
1806	724183	1792.M13.gz43_227771	F	M00056483B:E04	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1807	724390	1792.M14.gz43_227787	F	M00056483B:F04	UC2-PrimColon
1808	647375	1792.G16.gz43_227813	F	M00056476D:H11	UC2-PrimColon
1809	736751	1792.G17.gz43_227829	F	M00056477A:B11	UC2-PrimColon
1810	725348	1792.P17.gz43_227838	F	M00056487A:F05	UC2-PrimColon
1811	481594	1792.L18.gz43_227850	F	M00056482B:B11	UC2-PrimColon
1812	675299	1792.N18.gz43_227852	F	M00056484D:D01	UC2-PrimColon
1813	734646	1792.K19.gz43_227865	F	M00056481A:F02	UC2-PrimColon
1814	453713	1792.L20.gz43_227882	F	M00056482B:C09	UC2-PrimColon
1815	724183	1792.M20.gz43_227883	F	M00056483C:D06	UC2-PrimColon
1816	730282	1792.M24.gz43_227947	F	M00056483D:F06	UC2-PrimColon
1817	733006	1801.D01.gz43_227954	F	M00056491B:B09	UC2-PrimColon
1818	733151	1801.I01.gz43_227959	F	M00056496D:B12	UC2-PrimColon
1819	734261	1801.J01.gz43_227960	F	M00056497C:D05	UC2-PrimColon
1820	514142	1801.K01.gz43_227961	F	M00056498D:C01	UC2-PrimColon
1821	471232	1801.M01.gz43_227963	F	M00056501B:B09	UC2-PrimColon
1822	447785	1801.D02.gz43_227970	F	M00056491B:E02	UC2-PrimColon
1823	523753	1801.J02.gz43_227976	F	M00056497C:E01	UC2-PrimColon
1824	451383	1801.M02.gz43_227979	F	M00056501B:C07	UC2-PrimColon
1825	635951	1801.K03.gz43_227993	F	M00056499A:A04	UC2-PrimColon
1826	731820	1801.A04.gz43_227999	F	M00056487C:E03	UC2-PrimColon
1827	446928	1801.E04.gz43_228003	F	M00056492B:D06	UC2-PrimColon
1828	732598	1801.P04.gz43_228014	F	M00056504B:B01	UC2-PrimColon
1829	725434	1801.B05.gz43_228016	F	M00056488B:G10	UC2-PrimColon
1830	460690	1801.G05.gz43_228021	F	M00056495A:C02	UC2-PrimColon
1831	611604	1801.J05.gz43_228024	F	M00056497D:C11	UC2-PrimColon
1832	635951	1801.L05.gz43_228026	F	M00056500A:G12	UC2-PrimColon
1833	429191	1801.B06.gz43_228032	F	M00056488B:H04	UC2-PrimColon
1834	640116	1801.O06.gz43_228045	F	M00056503B:G11	UC2-PrimColon
1835	734043	1813.H05.gz43_229558	F	M00056576A:A04	UC2-PrimColon
1836	508210	1813.I06.gz43_229575	F	M00056577A:F10	UC2-PrimColon
1837	11632	1813.O07.gz43_229597	F	M00056585C:C08	UC2-PrimColon
1838	475757	1813.H08.gz43_229606	F	M00056576A:E01	UC2-PrimColon
1839	729281	1813.J10.gz43_229640	F	M00056578D:A02	UC2-PrimColon
1840	733970	1813.N10.gz43_229644	F	M00056584C:A06	UC2-PrimColon
1841	727410	1813.A13.gz43_229679	F	M00056567A:H06	UC2-PrimColon
1842	465446	1813.L13.gz43_229690	F	M00056581D:A08	UC2-PrimColon
1843	511351	1813.M13.gz43_229691	F	M00056583C:A05	UC2-PrimColon
1844	733664	1813.I20.gz43_229799	F	M00056577D:F08	UC2-PrimColon
1845	548893	1813.C22.gz43_229825	F	M00056570A:D09	UC2-PrimColon
1846	513540	1813.H22.gz43_229830	F	M00056576C:G01	UC2-PrimColon
1847	725759	1813.I22.gz43_229831	F	M00056578A:B05	UC2-PrimColon
1848	726104	1816.C19.gz43_230929	F	M00056633D:E05	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1849	482868	1816.E19.gz43_230931	F	M00056636C:H05	UC2-PrimColon
1850	727332	1816.I19.gz43_230935	F	M00056641C:G09	UC2-PrimColon
1851	727078	1816.K19.gz43_230937	F	M00056644C:B03	UC2-PrimColon
1852	727108	1816.L19.gz43_230938	F	M00056645D:E06	UC2-PrimColon
1853	736325	1816.B20.gz43_230944	F	M00056632C:E03	UC2-PrimColon
1854	726818	1816.J20.gz43_230952	F	M00056642D:C05	UC2-PrimColon
1855	724083	1816.M20.gz43_230955	F	M00056646D:E03	UC2-PrimColon
1856	724565	1816.N20.gz43_230956	F	M00056648B:C08	UC2-PrimColon
1857	207530	1816.O20.gz43_230957	F	M00056650A:E01	UC2-PrimColon
1858	736778	1816.C21.gz43_230961	F	M00056634A:C06	UC2-PrimColon
1859	559684	1816.E21.gz43_230963	F	M00056636D:F03	UC2-PrimColon
1860	726494	1816.B22.gz43_230976	F	M00056632C:H08	UC2-PrimColon
1861	419711	1816.G22.gz43_230981	F	M00056639A:F11	UC2-PrimColon
1862	377935	1816.M22.gz43_230987	F	M00056646D:F07	UC2-PrimColon
1863	726448	1816.C23.gz43_230993	F	M00056634A:G11	UC2-PrimColon
1864	215249	1816.G23.gz43_230997	F	M00056639A:H12	UC2-PrimColon
1865	735322	1816.N23.gz43_231004	F	M00056648B:E09	UC2-PrimColon
1866	727175	1816.O23.gz43_231005	F	M00056650B:C11	UC2-PrimColon
1867	731966	1816.P23.gz43_231006	F	M00056651B:E12	UC2-PrimColon
1868	727944	1816.B24.gz43_231008	F	M00056632D:E02	UC2-PrimColon
1869	730596	1816.M24.gz43_231019	F	M00056647A:F06	UC2-PrimColon
1870	725607	1825.N13.gz43_231228	F	M00056667A:A12	UC2-PrimColon
1871	45934	1825.P13.gz43_231230	F	M00056670A:G02	UC2-PrimColon
1872	484987	1825.F14.gz43_231236	F	M00056658A:E11	UC2-PrimColon
1873	481592	1825.M14.gz43_231243	F	M00056666A:C04	UC2-PrimColon
1874	735605	1825.O14.gz43_231245	F	M00056668D:E03	UC2-PrimColon
1875	734184	1825.P14.gz43_231246	F	M00056670B:A12	UC2-PrimColon
1876	477718	1825.E16.gz43_231267	F	M00056657A:F06	UC2-PrimColon
1877	552927	1825.F16.gz43_231268	F	M00056658B:C03	UC2-PrimColon
1878	719620	1825.J16.gz43_231272	F	M00056663A:B02	UC2-PrimColon
1879	27083	1825.M16.gz43_231275	F	M00056666A:D09	UC2-PrimColon
1880	478458	1825.P17.gz43_231294	F	M00056670B:G05	UC2-PrimColon
1881	448104	1825.L19.gz43_231322	F	M00056664D:H06	UC2-PrimColon
1882	729675	1825.J20.gz43_231336	F	M00056663A:H09	UC2-PrimColon
1883	730570	1825.B21.gz43_231344	F	M00056653D:F07	UC2-PrimColon
1884	727108	1825.D21.gz43_231346	F	M00056656A:E01	UC2-PrimColon
1885	447074	1825.I21.gz43_231351	F	M00056661D:D06	UC2-PrimColon
1886	463741	1825.F22.gz43_231364	F	M00056658C:B12	UC2-PrimColon
1887	732351	1825.N22.gz43_231372	F	M00056667D:E05	UC2-PrimColon
1888	727343	1825.L23.gz43_231386	F	M00056665A:G08	UC2-PrimColon
1889	736415	1825.B24.gz43_231392	F	M00056654A:A07	UC2-PrimColon
1890	554597	1825.O24.gz43_231405	F	M00056669B:E10	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
1891	723914	1826.A13.gz43_231599	F	M00056672A:E05	UC2-PrimColon
1892	734622	1826.C14.gz43_231617	F	M00056674D:E09	UC2-PrimColon
1893	645925	1826.I14.gz43_231623	F	M00056683B:H04	UC2-PrimColon
1894	641777	1826.D16.gz43_231650	F	M00056676B:G12	UC2-PrimColon
1895	734828	1826.E17.gz43_231667	F	M00056678B:E11	UC2-PrimColon
1896	381623	1826.I17.gz43_231671	F	M00056683C:H10	UC2-PrimColon
1897	517274	1826.J17.gz43_231672	F	M00056685A:H11	UC2-PrimColon
1898	446575	1826.C18.gz43_231681	F	M00056675A:C02	UC2-PrimColon
1899	725899	1826.D18.gz43_231682	F	M00056676C:B04	UC2-PrimColon
1900	492094	1826.M19.gz43_231707	F	M00056689B:F03	UC2-PrimColon
1901	736246	1826.E20.gz43_231715	F	M00056678B:H02	UC2-PrimColon
1902	473238	1826.J20.gz43_231720	F	M00056685B:G04	UC2-PrimColon
1903	730829	1826.K20.gz43_231721	F	M00056686D:E04	UC2-PrimColon
1904	726722	1826.A21.gz43_231727	F	M00056672D:B08	UC2-PrimColon
1905	492629	1826.O21.gz43_231741	F	M00056692A:A05	UC2-PrimColon
1906	730664	1826.E22.gz43_231747	F	M00056678C:A12	UC2-PrimColon
1907	729387	1826.G22.gz43_231749	F	M00056681A:E06	UC2-PrimColon
1908	546121	1826.A23.gz43_231759	F	M00056672D:E04	UC2-PrimColon
1909	513156	1826.C23.gz43_231761	F	M00056675A:G02	UC2-PrimColon
1910	728791	1826.G24.gz43_231781	F	M00056681B:A11	UC2-PrimColon
1911	559610	1826.I24.gz43_231783	F	M00056684B:B12	UC2-PrimColon
1912	729205	1826.J24.gz43_231784	F	M00056685C:G07	UC2-PrimColon
1913	561301	1827.C01.gz43_231793	F	M00056695C:C04	UC2-PrimColon
1914	728556	1827.E01.gz43_231795	F	M00056697C:H10	UC2-PrimColon
1915	640458	1827.I01.gz43_231799	F	M00056701C:G09	UC2-PrimColon
1916	650136	1827.K01.gz43_231801	F	M00056703C:F04	UC2-PrimColon
1917	288801	1827.L01.gz43_231802	F	M00056704D:H10	UC2-PrimColon
1918	648777	1827.M01.gz43_231803	F	M00056706A:B05	UC2-PrimColon
1919	728196	1827.G02.gz43_231813	F	M00056699C:F09	UC2-PrimColon
1920	644354	1827.I02.gz43_231815	F	M00056701D:C03	UC2-PrimColon
1921	419465	1827.M02.gz43_231819	F	M00056706A:E09	UC2-PrimColon
1922	558317	1827.P02.gz43_231822	F	M00056708C:F11	UC2-PrimColon
1923	693869	1827.B03.gz43_231824	F	M00056694A:G03	UC2-PrimColon
1924	553805	1827.L03.gz43_231834	F	M00056705A:B12	UC2-PrimColon
1925	626791	1827.N03.gz43_231836	F	M00056707A:G11	UC2-PrimColon
1926	580601	1827.A04.gz43_231839	F	M00056693B:D11	UC2-PrimColon
1927	493830	1827.B04.gz43_231840	F	M00056694A:G11	UC2-PrimColon
1928	724714	1827.E04.gz43_231843	F	M00056697D:B09	UC2-PrimColon
1929	737109	1827.F04.gz43_231844	F	M00056698D:E11	UC2-PrimColon
1930	395604	1827.G04.gz43_231845	F	M00056699C:G11	UC2-PrimColon
1931	735834	1827.J04.gz43_231848	F	M00056702D:G03	UC2-PrimColon
1932	726852	1827.L04.gz43_231850	F	M00056705A:D02	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1933	728892	1827.P05.gz43_231870	F	M00056708D:B03	UC2-PrimColon
1934	540618	1827.C06.gz43_231873	F	M00056695C:H08	UC2-PrimColon
1935	501030	1827.E06.gz43_231875	F	M00056697D:C09	UC2-PrimColon
1936	477366	1827.F06.gz43_231876	F	M00056698D:G09	UC2-PrimColon
1937	727948	1827.I06.gz43_231879	F	M00056701D:D04	UC2-PrimColon
1938	649927	1827.K06.gz43_231881	F	M00056703D:F08	UC2-PrimColon
1939	449752	1827.M06.gz43_231883	F	M00056706B:C02	UC2-PrimColon
1940	649106	1827.N06.gz43_231884	F	M00056707B:E02	UC2-PrimColon
1941	730463	1827.P06.gz43_231886	F	M00056708D:D10	UC2-PrimColon
1942	462687	1827.E07.gz43_231891	F	M00056697D:C12	UC2-PrimColon
1943	553140	1827.I07.gz43_231895	F	M00056701D:G03	UC2-PrimColon
1944	736100	1827.M07.gz43_231899	F	M00056706B:C07	UC2-PrimColon
1945	730375	1827.B08.gz43_231904	F	M00056694B:H10	UC2-PrimColon
1946	403671	1827.K08.gz43_231913	F	M00056704A:B05	UC2-PrimColon
1947	595181	1827.M08.gz43_231915	F	M00056706B:D04	UC2-PrimColon
1948	573733	1827.A09.gz43_231919	F	M00056693B:H03	UC2-PrimColon
1949	550454	1827.I09.gz43_231927	F	M00056701D:H12	UC2-PrimColon
1950	651050	1827.J09.gz43_231928	F	M00056703A:G01	UC2-PrimColon
1951	728768	1827.L09.gz43_231930	F	M00056705B:A12	UC2-PrimColon
1952	736276	1827.N09.gz43_231932	F	M00056707B:F06	UC2-PrimColon
1953	472837	1827.C10.gz43_231937	F	M00056695D:E05	UC2-PrimColon
1954	732770	1827.H10.gz43_231942	F	M00056700D:H07	UC2-PrimColon
1955	83388	1827.L10.gz43_231946	F	M00056705B:D10	UC2-PrimColon
1956	584693	1827.M10.gz43_231947	F	M00056706C:A07	UC2-PrimColon
1957	588059	1827.D11.gz43_231954	F	M00056697A:D02	UC2-PrimColon
1958	452662	1827.F11.gz43_231956	F	M00056699A:D08	UC2-PrimColon
1959	728898	1827.M11.gz43_231963	F	M00056706C:B12	UC2-PrimColon
1960	672032	1827.F12.gz43_231972	F	M00056699A:E08	UC2-PrimColon
1961	496084	1827.H12.gz43_231974	F	M00056701A:A02	UC2-PrimColon
1962	736579	1827.O12.gz43_231981	F	M00056708B:B09	UC2-PrimColon
1963	727968	1827.A13.gz43_231983	F	M00056693C:D12	UC2-PrimColon
1964	447624	1827.J13.gz43_231992	F	M00056703B:A04	UC2-PrimColon
1965	728552	1827.K13.gz43_231993	F	M00056704A:H08	UC2-PrimColon
1966	733064	1827.M13.gz43_231995	F	M00056706C:D05	UC2-PrimColon
1967	607202	1827.O13.gz43_231997	F	M00056708B:D03	UC2-PrimColon
1968	473433	1827.P13.gz43_231998	F	M00056708D:H06	UC2-PrimColon
1969	617813	1827.A14.gz43_231999	F	M00056693C:G06	UC2-PrimColon
1970	728300	1827.G14.gz43_232005	F	M00056700A:F12	UC2-PrimColon
1971	727760	1827.K14.gz43_232009	F	M00056704B:C02	UC2-PrimColon
1972	454087	1827.P14.gz43_232014	F	M00056709A:A05	UC2-PrimColon
1973	425396	1827.A15.gz43_232015	F	M00056693D:B02	UC2-PrimColon
1974	552430	1827.N15.gz43_232028	F	M00056707C:E01	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
1975	650542	1827.C16.gz43_232033	F	M00056696A:G12	UC2-PrimColon
1976	725084	1827.D16.gz43_232034	F	M00056697A:H10	UC2-PrimColon
1977	446607	1827.G16.gz43_232037	F	M00056700A:G05	UC2-PrimColon
1978	4584	1827.H16.gz43_232038	F	M00056701A:G09	UC2-PrimColon
1979	560678	1827.J16.gz43_232040	F	M00056703B:D07	UC2-PrimColon
1980	730639	1827.N16.gz43_232044	F	M00056707C:E03	UC2-PrimColon
1981	727506	1827.C17.gz43_232049	F	M00056696B:B03	UC2-PrimColon
1982	540618	1827.E17.gz43_232051	F	M00056698B:E10	UC2-PrimColon
1983	735676	1827.I17.gz43_232055	F	M00056702C:A10	UC2-PrimColon
1984	728768	1827.N17.gz43_232060	F	M00056707C:F10	UC2-PrimColon
1985	475942	1827.A18.gz43_232063	F	M00056693D:E12	UC2-PrimColon
1986	631056	1827.H18.gz43_232070	F	M00056701B:D02	UC2-PrimColon
1987	259218	1827.P18.gz43_232078	F	M00056709A:H11	UC2-PrimColon
1988	724489	1827.H19.gz43_232086	F	M00056701B:D06	UC2-PrimColon
1989	727845	1827.D21.gz43_232114	F	M00056697C:D11	UC2-PrimColon
1990	641072	1827.F21.gz43_232116	F	M00056699B:G04	UC2-PrimColon
1991	553483	1827.A22.gz43_232127	F	M00056694A:C05	UC2-PrimColon
1992	551096	1827.C24.gz43_232161	F	M00056696B:H01	UC2-PrimColon
1993	727649	1827.F24.gz43_232164	F	M00056699C:C02	UC2-PrimColon
1994	728196	1827.H24.gz43_232166	F	M00056701C:F08	UC2-PrimColon
1995	729428	1828.A01.gz43_232175	F	M00056709C:F06	UC2-PrimColon
1996	724050	1828.F01.gz43_232180	F	M00056714B:C12	UC2-PrimColon
1997	732351	1828.L01.gz43_232186	F	M00056721C:E05	UC2-PrimColon
1998	730627	1828.M01.gz43_232187	F	M00056722C:C09	UC2-PrimColon
1999	728182	1828.H02.gz43_232198	F	M00056716B:F12	UC2-PrimColon
2000	727878	1828.M02.gz43_232203	F	M00056722C:D11	UC2-PrimColon
2001	462687	1828.N02.gz43_232204	F	M00056723C:C09	UC2-PrimColon
2002	555763	1828.L03.gz43_232218	F	M00056721C:H01	UC2-PrimColon
2003	728627	1828.P03.gz43_232222	F	M00056725C:H06	UC2-PrimColon
2004	630516	1828.H04.gz43_232230	F	M00056716C:B06	UC2-PrimColon
2005	584179	1828.A05.gz43_232239	F	M00056709D:D05	UC2-PrimColon
2006	558544	1828.G05.gz43_232245	F	M00056715C:B07	UC2-PrimColon
2007	553294	1828.N05.gz43_232252	F	M00056723C:E01	UC2-PrimColon
2008	726576	1828.O05.gz43_232253	F	M00056724C:H11	UC2-PrimColon
2009	734622	1828.L07.gz43_232282	F	M00056721D:D01	UC2-PrimColon
2010	735362	1828.P07.gz43_232286	F	M00056726A:C12	UC2-PrimColon
2011	455297	1828.A08.gz43_232287	F	M00056709D:E12	UC2-PrimColon
2012	734990	1828.N08.gz43_232300	F	M00056723C:G03	UC2-PrimColon
2013	707609	1828.B10.gz43_232320	F	M00056710D:C05	UC2-PrimColon
2014	728178	1828.L10.gz43_232330	F	M00056721D:F12	UC2-PrimColon
2015	447634	1828.P10.gz43_232334	F	M00056726B:H06	UC2-PrimColon
2016	729813	1828.F11.gz43_232340	F	M00056714D:A11	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2017	728528	1828.I11.gz43_232343	F	M00056718A:H05	UC2-PrimColon
2018	732770	1828.J11.gz43_232344	F	M00056719B:G04	UC2-PrimColon
2019	505858	1828.F12.gz43_232356	F	M00056714D:E08	UC2-PrimColon
2020	735047	1828.E13.gz43_232371	F	M00056714A:B02	UC2-PrimColon
2021	727749	1828.K13.gz43_232377	F	M00056721A:C07	UC2-PrimColon
2022	598746	1828.L13.gz43_232378	F	M00056722A:E10	UC2-PrimColon
2023	728061	1828.O13.gz43_232381	F	M00056725A:E02	UC2-PrimColon
2024	448217	1828.F14.gz43_232388	F	M00056714D:H07	UC2-PrimColon
2025	485899	1828.L14.gz43_232394	F	M00056722A:F08	UC2-PrimColon
2026	641287	1828.B15.gz43_232400	F	M00056711A:A09	UC2-PrimColon
2027	48619	1828.D15.gz43_232402	F	M00056713A:F05	UC2-PrimColon
2028	728929	1828.E15.gz43_232403	F	M00056714A:B09	UC2-PrimColon
2029	451972	1828.I15.gz43_232407	F	M00056718B:C02	UC2-PrimColon
2030	486363	1828.J18.gz43_232456	F	M00056719C:B10	UC2-PrimColon
2031	728897	1828.C19.gz43_232465	F	M00056712B:B11	UC2-PrimColon
2032	448217	1828.E19.gz43_232467	F	M00056714A:E12	UC2-PrimColon
2033	646309	1828.I19.gz43_232471	F	M00056718C:B01	UC2-PrimColon
2034	728303	1828.J19.gz43_232472	F	M00056719C:F06	UC2-PrimColon
2035	728002	1828.K19.gz43_232473	F	M00056721B:D03	UC2-PrimColon
2036	473640	1828.N20.gz43_232492	F	M00056724B:E11	UC2-PrimColon
2037	727480	1828.O21.gz43_232509	F	M00056725C:A03	UC2-PrimColon
2038	509678	1828.P21.gz43_232510	F	M00056726D:G08	UC2-PrimColon
2039	728445	1828.E22.gz43_232515	F	M00056714A:H06	UC2-PrimColon
2040	447150	1828.N22.gz43_232524	F	M00056724B:G03	UC2-PrimColon
2041	728273	1828.A23.gz43_232527	F	M00056710B:F05	UC2-PrimColon
2042	734453	1828.C23.gz43_232529	F	M00056712B:F02	UC2-PrimColon
2043	732006	1828.D23.gz43_232530	F	M00056713C:A10	UC2-PrimColon
2044	449585	1828.I23.gz43_232535	F	M00056718D:D12	UC2-PrimColon
2045	728966	1828.E24.gz43_232547	F	M00056714B:B06	UC2-PrimColon
2046	529356	1838.C01.gz43_232945	F	M00056747D:A03	UC2-PrimColon
2047	551693	1838.P01.gz43_232958	F	M00056764C:A02	UC2-PrimColon
2048	438663	1838.B03.gz43_232976	F	M00056746D:D06	UC2-PrimColon
2049	735464	1838.E03.gz43_232979	F	M00056750B:H03	UC2-PrimColon
2050	736035	1838.J03.gz43_232984	F	M00056756C:D06	UC2-PrimColon
2051	736210	1838.L03.gz43_232986	F	M00056759C:C04	UC2-PrimColon
2052	728464	1838.I05.gz43_233015	F	M00056755B:E07	UC2-PrimColon
2053	730178	1838.K05.gz43_233017	F	M00056758C:B08	UC2-PrimColon
2054	481614	1838.N05.gz43_233020	F	M00056762B:D06	UC2-PrimColon
2055	402799	1839.A01.gz43_233327	F	M00056766D:G09	UC2-PrimColon
2056	675768	1839.N01.gz43_233340	F	M00056784D:C06	UC2-PrimColon
2057	577305	1839.P01.gz43_233342	F	M00056787B:C07	UC2-PrimColon
2058	730505	1839.K02.gz43_233353	F	M00056781A:E06	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2059	349977	1839.B03.gz43_233360	F	M00056768D:A09	UC2-PrimColon
2060	726344	1839.N03.gz43_233372	F	M00056784D:G10	UC2-PrimColon
2061	724183	1839.J04.gz43_233384	F	M00056780B:E06	UC2-PrimColon
2062	730352	1839.M04.gz43_233387	F	M00056783C:E03	UC2-PrimColon
2063	510596	1839.E05.gz43_233395	F	M00056773C:C09	UC2-PrimColon
2064	128773	1839.F05.gz43_233396	F	M00056775A:A05	UC2-PrimColon
2065	728464	1839.G06.gz43_233413	F	M00056776A:G04	UC2-PrimColon
2066	449010	1839.L06.gz43_233418	F	M00056782B:G05	UC2-PrimColon
2067	460023	1839.M06.gz43_233419	F	M00056783D:A02	UC2-PrimColon
2068	733744	1839.K07.gz43_233433	F	M00056781B:C03	UC2-PrimColon
2069	2180	1839.L07.gz43_233434	F	M00056782B:H11	UC2-PrimColon
2070	556458	1839.M07.gz43_233435	F	M00056783D:B07	UC2-PrimColon
2071	711325	1839.A08.gz43_233439	F	M00056767A:F12	UC2-PrimColon
2072	135593	1839.E08.gz43_233443	F	M00056773C:F12	UC2-PrimColon
2073	639178	1839.K08.gz43_233449	F	M00056781B:C05	UC2-PrimColon
2074	504513	1839.B09.gz43_233456	F	M00056769C:C03	UC2-PrimColon
2075	493193	1839.J09.gz43_233464	F	M00056780B:H04	UC2-PrimColon
2076	728133	1839.K09.gz43_233465	F	M00056781B:E01	UC2-PrimColon
2077	727737	1839.A11.gz43_233487	F	M00056767B:C01	UC2-PrimColon
2078	477053	1839.F12.gz43_233508	F	M00056775B:H07	UC2-PrimColon
2079	726384	1839.P12.gz43_233518	F	M00056787C:G01	UC2-PrimColon
2080	736686	1839.A13.gz43_233519	F	M00056767B:G08	UC2-PrimColon
2081	483549	1839.L13.gz43_233530	F	M00056782D:F02	UC2-PrimColon
2082	549801	1839.A14.gz43_233535	F	M00056767C:A09	UC2-PrimColon
2083	730484	1839.H14.gz43_233542	F	M00056777D:D04	UC2-PrimColon
2084	647991	1839.J14.gz43_233544	F	M00056780C:H12	UC2-PrimColon
2085	490393	1839.L14.gz43_233546	F	M00056782D:F08	UC2-PrimColon
2086	643968	1839.N14.gz43_233548	F	M00056785C:B09	UC2-PrimColon
2087	641968	1839.B15.gz43_233552	F	M00056770C:A07	UC2-PrimColon
2088	726261	1839.L15.gz43_233562	F	M00056782D:F10	UC2-PrimColon
2089	733891	1839.M15.gz43_233563	F	M00056784B:A01	UC2-PrimColon
2090	730022	1839.O15.gz43_233565	F	M00056786D:A03	UC2-PrimColon
2091	730296	1839.M16.gz43_233579	F	M00056784B:C02	UC2-PrimColon
2092	733149	1839.M17.gz43_233595	F	M00056784B:D06	UC2-PrimColon
2093	728487	1839.A18.gz43_233599	F	M00056768A:C10	UC2-PrimColon
2094	726229	1839.C18.gz43_233601	F	M00056771D:D10	UC2-PrimColon
2095	523868	1839.G18.gz43_233605	F	M00056776D:B02	UC2-PrimColon
2096	577305	1839.L18.gz43_233610	F	M00056783A:C08	UC2-PrimColon
2097	727216	1839.J19.gz43_233624	F	M00056780D:G05	UC2-PrimColon
2098	47461	1839.L19.gz43_233626	F	M00056783B:B01	UC2-PrimColon
2099	550780	1839.N19.gz43_233628	F	M00056785D:C09	UC2-PrimColon
2100	606076	1839.P21.gz43_233662	F	M00056788A:D06	UC2-PrimColon



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2101	691229	1839.C22.gz43_233665	F	M00056772A:C08	UC2-PrimColon
2102	727366	1839.D22.gz43_233666	F	M00056773A:G10	UC2-PrimColon
2103	724722	1839.J22.gz43_233672	F	M00056780D:H10	UC2-PrimColon
2104	725784	1839.M22.gz43_233675	F	M00056784C:C06	UC2-PrimColon
2105	732345	1839.B23.gz43_233680	F	M00056771A:F03	UC2-PrimColon
2106	726699	1839.C23.gz43_233681	F	M00056772A:D03	UC2-PrimColon
2107	513156	1839.J23.gz43_233688	F	M00056781A:C05	UC2-PrimColon
2108	631038	1839.E24.gz43_233699	F	M00056774D:B02	UC2-PrimColon
2109	609459	1839.H24.gz43_233702	F	M00056778C:G08	UC2-PrimColon
2110	482788	1839.J24.gz43_233704	F	M00056781A:D02	UC2-PrimColon
2111	730592	1839.N24.gz43_233708	F	M00056785D:G07	UC2-PrimColon
2112	735801	1852.A13.gz43_235742	F	M00056871C:D05	UC2-PrimColon
2113	472704	1852.H13.gz43_235749	F	M00056879D:D01	UC2-PrimColon
2114	649299	1852.I13.gz43_235750	F	M00056881A:A10	UC2-PrimColon
2115	650944	1852.N13.gz43_235755	F	M00056886B:B10	UC2-PrimColon
2116	481641	1852.E14.gz43_235762	F	M00056876C:B02	UC2-PrimColon
2117	488349	1852.F14.gz43_235763	F	M00056877B:H09	UC2-PrimColon
2118	735096	1852.I14.gz43_235766	F	M00056881A:C02	UC2-PrimColon
2119	594434	1852.J14.gz43_235767	F	M00056882B:E12	UC2-PrimColon
2120	550673	1852.L14.gz43_235769	F	M00056884C:H08	UC2-PrimColon
2121	735672	1852.N14.gz43_235771	F	M00056886B:C05	UC2-PrimColon
2122	732712	1852.K15.gz43_235784	F	M00056883D:A07	UC2-PrimColon
2123	472307	1852.L15.gz43_235785	F	M00056884C:H11	UC2-PrimColon
2124	729981	1852.D16.gz43_235793	F	M00056875D:C04	UC2-PrimColon
2125	639950	1852.I16.gz43_235798	F	M00056881A:H02	UC2-PrimColon
2126	724517	1852.L16.gz43_235801	F	M00056884D:C07	UC2-PrimColon
2127	735412	1852.B17.gz43_235807	F	M00056873A:H06	UC2-PrimColon
2128	724223	1852.N17.gz43_235819	F	M00056886B:H02	UC2-PrimColon
2129	727602	1852.D18.gz43_235825	F	M00056875D:E09	UC2-PrimColon
2130	561396	1852.L18.gz43_235833	F	M00056884D:D06	UC2-PrimColon
2131	726408	1852.B19.gz43_235839	F	M00056873B:C09	UC2-PrimColon
2132	730059	1852.C19.gz43_235840	F	M00056874C:D05	UC2-PrimColon
2133	655327	1852.F19.gz43_235843	F	M00056877C:G12	UC2-PrimColon
2134	732872	1852.M19.gz43_235850	F	M00056886A:A09	UC2-PrimColon
2135	473512	1852.N19.gz43_235851	F	M00056886C:D02	UC2-PrimColon
2136	730441	1852.F20.gz43_235859	F	M00056877C:H03	UC2-PrimColon
2137	451184	1852.N20.gz43_235867	F	M00056886C:D11	UC2-PrimColon
2138	733040	1852.D21.gz43_235873	F	M00056875D:H12	UC2-PrimColon
2139	732872	1852.K21.gz43_235880	F	M00056883D:F07	UC2-PrimColon
2140	152	1852.M21.gz43_235882	F	M00056886A:C11	UC2-PrimColon
2141	730301	1852.I22.gz43_235894	F	M00056881B:G04	UC2-PrimColon
2142	471931	1852.J22.gz43_235895	F	M00056882D:A06	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2143	730106	1852.L23.gz43_235913	F	M00056885A:D12	UC2-PrimColon
2144	649030	1852.O24.gz43_235932	F	M00056888A:H04	UC2-PrimColon
2145	562345	1861.I04.gz43_235990	F	M00056900C:B12	UC2-PrimColon
2146	472226	1861.P04.gz43_235997	F	M00056910B:F01	UC2-PrimColon
2147	494393	1861.E07.gz43_236034	F	M00056895C:E11	UC2-PrimColon
2148	730393	1861.B08.gz43_236047	F	M00056891C:H08	UC2-PrimColon
2149	676221	1861.G10.gz43_236084	F	M00056898C:B06	UC2-PrimColon
2150	648774	1861.O11.gz43_236108	F	M00056909B:E11	UC2-PrimColon
2151	448368	1861.H12.gz43_236117	F	M00056899D:B06	UC2-PrimColon
2152	489001	1861.K12.gz43_236120	F	M00056902D:H09	UC2-PrimColon
2153	557525	1861.J14.gz43_236151	F	M00056902A:G12	UC2-PrimColon
2154	724773	1861.C16.gz43_236176	F	M00056893B:G12	UC2-PrimColon
2155	730608	1861.I16.gz43_236182	F	M00056901B:C03	UC2-PrimColon
2156	642897	1861.K16.gz43_236184	F	M00056903A:C08	UC2-PrimColon
2157	548275	1861.N16.gz43_236187	F	M00056908B:D02	UC2-PrimColon
2158	728640	1861.C17.gz43_236192	F	M00056893C:A02	UC2-PrimColon
2159	479572	1861.B18.gz43_236207	F	M00056892B:C09	UC2-PrimColon
2160	735834	1861.E18.gz43_236210	F	M00056896A:C01	UC2-PrimColon
2161	733425	1861.K18.gz43_236216	F	M00056903A:F03	UC2-PrimColon
2162	732653	1861.P19.gz43_236237	F	M00056911B:A01	UC2-PrimColon
2163	729060	1861.G20.gz43_236244	F	M00056898D:H09	UC2-PrimColon
2164	656667	1861.H21.gz43_236261	F	M00056900B:D01	UC2-PrimColon
2165	732676	1861.G22.gz43_236276	F	M00056899A:A11	UC2-PrimColon
2166	730296	1861.H24.gz43_236309	F	M00056900B:F07	UC2-PrimColon
2167	453001	1861.K24.gz43_236312	F	M00056903B:D09	UC2-PrimColon
2168	725451	1861.N24.gz43_236315	F	M00056908D:A11	UC2-PrimColon
2169	730851	1863.C01.gz43_236704	F	M00056936C:E04	UC2-PrimColon
2170	727596	1863.H01.gz43_236709	F	M00056941D:D07	UC2-PrimColon
2171	736293	1863.L01.gz43_236713	F	M00056946A:F07	UC2-PrimColon
2172	733910	1863.N01.gz43_236715	F	M00056948C:F03	UC2-PrimColon
2173	77737	1863.C02.gz43_236720	F	M00056936C:F11	UC2-PrimColon
2174	638983	1863.L02.gz43_236729	F	M00056946A:G06	UC2-PrimColon
2175	736001	1863.M02.gz43_236730	F	M00056947C:B04	UC2-PrimColon
2176	731196	1863.P02.gz43_236733	F	M00056950D:F12	UC2-PrimColon
2177	446820	1863.A03.gz43_236734	F	M00056934A:E07	UC2-PrimColon
2178	734151	1863.E03.gz43_236738	F	M00056939A:C01	UC2-PrimColon
2179	456183	1863.H03.gz43_236741	F	M00056941D:G05	UC2-PrimColon
2180	734629	1863.I03.gz43_236742	F	M00056943A:B04	UC2-PrimColon
2181	733623	1863.J03.gz43_236743	F	M00056944A:D09	UC2-PrimColon
2182	733856	1863.N03.gz43_236747	F	M00056948D:A11	UC2-PrimColon
2183	727480	1863.P03.gz43_236749	F	M00056950D:H09	UC2-PrimColon
2184	448233	1863.J04.gz43_236759	F	M00056944B:C02	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2185	729691	1863.I05.gz43_236774	F	M00056943A:F01	UC2-PrimColon
2186	500239	1863.N05.gz43_236779	F	M00056949A:A04	UC2-PrimColon
2187	646314	1863.K06.gz43_236792	F	M00056945A:F02	UC2-PrimColon
2188	492893	1863.A08.gz43_236814	F	M00056934C:C04	UC2-PrimColon
2189	451624	1863.D08.gz43_236817	F	M00056938A:H09	UC2-PrimColon
2190	552416	1863.L08.gz43_236825	F	M00056946C:B08	UC2-PrimColon
2191	555478	1863.A10.gz43_236846	F	M00056934C:G09	UC2-PrimColon
2192	616541	1863.G10.gz43_236852	F	M00056941B:B02	UC2-PrimColon
2193	410487	1863.O10.gz43_236860	F	M00056950A:H03	UC2-PrimColon
2194	726825	1863.B11.gz43_236863	F	M00056935C:G08	UC2-PrimColon
2195	733144	1863.D12.gz43_236881	F	M00056938B:C09	UC2-PrimColon
2196	642528	1863.E12.gz43_236882	F	M00056939B:E05	UC2-PrimColon
2197	735994	1863.J12.gz43_236887	F	M00056944C:B03	UC2-PrimColon
2198	724401	1863.K12.gz43_236888	F	M00056945C:A11	UC2-PrimColon
2199	736129	1863.M12.gz43_236890	F	M00056948A:D09	UC2-PrimColon
2200	448046	1863.P13.gz43_236909	F	M00056951B:F09	UC2-PrimColon
2201	731216	1863.D15.gz43_236929	F	M00056938B:H08	UC2-PrimColon
2202	449061	1863.M15.gz43_236938	F	M00056948B:B03	UC2-PrimColon
2203	730815	1863.F17.gz43_236963	F	M00056940C:E05	UC2-PrimColon
2204	732756	1863.H17.gz43_236965	F	M00056942C:F11	UC2-PrimColon
2205	468015	1863.I17.gz43_236966	F	M00056943C:A01	UC2-PrimColon
2206	733081	1863.J17.gz43_236967	F	M00056944D:A06	UC2-PrimColon
2207	555484	1863.L17.gz43_236969	F	M00056946D:G09	UC2-PrimColon
2208	731355	1863.A18.gz43_236974	F	M00056935A:C02	UC2-PrimColon
2209	730375	1863.G18.gz43_236980	F	M00056941B:G08	UC2-PrimColon
2210	467803	1863.M18.gz43_236986	F	M00056948B:G05	UC2-PrimColon
2211	735306	1863.D20.gz43_237009	F	M00056938C:F10	UC2-PrimColon
2212	729316	1863.I20.gz43_237014	F	M00056943D:B02	UC2-PrimColon
2213	551441	1863.L20.gz43_237017	F	M00056947A:C05	UC2-PrimColon
2214	735484	1863.A21.gz43_237022	F	M00056935A:F04	UC2-PrimColon
2215	171511	1863.E21.gz43_237026	F	M00056939D:B02	UC2-PrimColon
2216	728076	1863.H21.gz43_237029	F	M00056942D:D07	UC2-PrimColon
2217	511351	1863.H22.gz43_237045	F	M00056942D:D11	UC2-PrimColon
2218	731125	1863.I22.gz43_237046	F	M00056943D:H08	UC2-PrimColon
2219	524706	1863.B24.gz43_237071	F	M00056936C:C06	UC2-PrimColon
2220	485880	1863.C24.gz43_237072	F	M00056937C:H08	UC2-PrimColon
2221	736197	1864.I03.gz43_237126	F	M00056961C:C07	UC2-PrimColon
2222	731089	1864.M04.gz43_237146	F	M00056968C:C06	UC2-PrimColon
2223	642781	1864.G12.gz43_237268	F	M00056959C:B10	UC2-PrimColon
2224	731947	1864.M14.gz43_237306	F	M00056969A:B07	UC2-PrimColon
2225	448712	1864.M16.gz43_237338	F	M00056969A:C07	UC2-PrimColon
2226	736289	1864.I17.gz43_237350	F	M00056962D:F09	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2227	735123	1873.E02.gz43_237490	F	M00056978D:B07	UC2-PrimColon
2228	724411	1873.H02.gz43_237493	F	M00056982D:B12	UC2-PrimColon
2229	662617	1873.P02.gz43_237501	F	M00056993D:C05	UC2-PrimColon
2230	639934	1873.M03.gz43_237514	F	M00056989C:H09	UC2-PrimColon
2231	733563	1873.C04.gz43_237520	F	M00056977A:C02	UC2-PrimColon
2232	203793	1873.K04.gz43_237528	F	M00056987C:D08	UC2-PrimColon
2233	703978	1873.L04.gz43_237529	F	M00056988C:D05	UC2-PrimColon
2234	732114	1873.P05.gz43_237549	F	M00056993D:F05	UC2-PrimColon
2235	732213	1873.J06.gz43_237559	F	M00056986A:E09	UC2-PrimColon
2236	725825	1873.N06.gz43_237563	F	M00056990D:C11	UC2-PrimColon
2237	734936	1873.D08.gz43_237585	F	M00056978A:A03	UC2-PrimColon
2238	731607	1873.E08.gz43_237586	F	M00056979B:D03	UC2-PrimColon
2239	731302	1873.K10.gz43_237624	F	M00056987D:A09	UC2-PrimColon
2240	732113	1873.L10.gz43_237625	F	M00056988D:F05	UC2-PrimColon
2241	728013	1873.M10.gz43_237626	F	M00056989D:F07	UC2-PrimColon
2242	730089	1873.D11.gz43_237633	F	M00056978A:H04	UC2-PrimColon
2243	648034	1873.E12.gz43_237650	F	M00056979C:D11	UC2-PrimColon
2244	729623	1873.I12.gz43_237654	F	M00056985A:D06	UC2-PrimColon
2245	731317	1873.M12.gz43_237658	F	M00056989D:H11	UC2-PrimColon
2246	728249	1873.A13.gz43_237662	F	M00056975A:H11	UC2-PrimColon
2247	613029	1873.C13.gz43_237664	F	M00056977B:B06	UC2-PrimColon
2248	731542	1873.O13.gz43_237676	F	M00056993A:B08	UC2-PrimColon
2249	732535	1873.G14.gz43_237684	F	M00056981D:H02	UC2-PrimColon
2250	735440	1873.A16.gz43_237710	F	M00056975B:E04	UC2-PrimColon
2251	641658	1873.D16.gz43_237713	F	M00056978B:G02	UC2-PrimColon
2252	406931	1873.N18.gz43_237755	F	M00056991C:H11	UC2-PrimColon
2253	736401	1873.P18.gz43_237757	F	M00056994B:H05	UC2-PrimColon
2254	734561	1873.B20.gz43_237775	F	M00056976C:F05	UC2-PrimColon
2255	727151	1873.F20.gz43_237779	F	M00056980D:E07	UC2-PrimColon
2256	731453	1873.I20.gz43_237782	F	M00056985C:C06	UC2-PrimColon
2257	642649	1873.K20.gz43_237784	F	M00056988A:F06	UC2-PrimColon
2258	642288	1873.M20.gz43_237786	F	M00056990B:H07	UC2-PrimColon
2259	572426	1873.P20.gz43_237789	F	M00056994C:B04	UC2-PrimColon
2260	731358	1873.K22.gz43_237816	F	M00056988B:A06	UC2-PrimColon
2261	471883	1873.N22.gz43_237819	F	M00056992A:E01	UC2-PrimColon
2262	733778	1873.D24.gz43_237841	F	M00056978D:A01	UC2-PrimColon
2263	731592	1873.J24.gz43_237847	F	M00056987A:C02	UC2-PrimColon
2264	456236	1874.D01.gz43_237857	F	M00056998C:B10	UC2-PrimColon
2265	732792	1874.N01.gz43_237867	F	M00057009C:B02	UC2-PrimColon
2266	733932	1874.E03.gz43_237890	F	M00057000A:A05	UC2-PrimColon
2267	724810	1874.P07.gz43_237965	F	M00057011C:H03	UC2-PrimColon
2268	731317	1874.B08.gz43_237967	F	M00056996D:A02	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2269	726408	1874.D08.gz43_237969	F	M00056998D:H08	UC2-PrimColon
2270	734708	1874.D12.gz43_238033	F	M00056999A:G12	UC2-PrimColon
2271	631251	1874.A15.gz43_238078	F	M00056995C:H06	UC2-PrimColon
2272	726696	1874.D16.gz43_238097	F	M00056999B:D07	UC2-PrimColon
2273	448202	1874.F16.gz43_238099	F	M00057001D:F02	UC2-PrimColon
2274	734629	1874.H16.gz43_238101	F	M00057003D:F02	UC2-PrimColon
2275	561993	1874.K16.gz43_238104	F	M00057007B:G02	UC2-PrimColon
2276	407723	1874.J17.gz43_238119	F	M00057006A:G10	UC2-PrimColon
2277	736413	1874.K17.gz43_238120	F	M00057007C:A06	UC2-PrimColon
2278	556637	1874.P17.gz43_238125	F	M00057012A:D12	UC2-PrimColon
2279	731686	1874.A19.gz43_238142	F	M00056995D:C11	UC2-PrimColon
2280	559053	1874.B20.gz43_238159	F	M00056997B:C11	UC2-PrimColon
2281	733625	1875.J01.gz43_238247	F	M00057024B:F07	UC2-PrimColon
2282	461486	1875.O01.gz43_238252	F	M00057030C:B03	UC2-PrimColon
2283	556019	1875.B02.gz43_238255	F	M00057014B:A02	UC2-PrimColon
2284	732119	1875.F02.gz43_238259	F	M00057018C:F02	UC2-PrimColon
2285	411128	1875.K02.gz43_238264	F	M00057025C:A08	UC2-PrimColon
2286	732441	1875.A03.gz43_238270	F	M00057012D:G03	UC2-PrimColon
2287	478448	1875.B03.gz43_238271	F	M00057014B:B01	UC2-PrimColon
2288	733723	1875.D03.gz43_238273	F	M00057016B:A09	UC2-PrimColon
2289	726173	1875.I03.gz43_238278	F	M00057023A:H09	UC2-PrimColon
2290	451351	1875.B04.gz43_238287	F	M00057014B:B06	UC2-PrimColon
2291	570573	1875.E04.gz43_238290	F	M00057017A:F11	UC2-PrimColon
2292	655312	1875.K04.gz43_238296	F	M00057025C:D11	UC2-PrimColon
2293	732047	1875.C05.gz43_238304	F	M00057015A:E02	UC2-PrimColon
2294	734091	1875.F05.gz43_238307	F	M00057018D:B10	UC2-PrimColon
2295	538582	1875.E06.gz43_238322	F	M00057017A:G04	UC2-PrimColon
2296	487183	1875.C07.gz43_238336	F	M00057015A:G06	UC2-PrimColon
2297	483919	1875.G07.gz43_238340	F	M00057020D:A05	UC2-PrimColon
2298	651049	1875.L07.gz43_238345	F	M00057027B:B11	UC2-PrimColon
2299	734392	1875.D08.gz43_238353	F	M00057016B:E06	UC2-PrimColon
2300	557896	1875.F08.gz43_238355	F	M00057018D:E05	UC2-PrimColon
2301	89082	1875.L08.gz43_238361	F	M00057027B:E04	UC2-PrimColon
2302	512863	1875.P08.gz43_238365	F	M00057032A:C01	UC2-PrimColon
2303	474009	1875.D09.gz43_238369	F	M00057016B:H08	UC2-PrimColon
2304	729731	1875.H09.gz43_238373	F	M00057022B:A04	UC2-PrimColon
2305	481581	1875.A10.gz43_238382	F	M00057013B:H07	UC2-PrimColon
2306	732550	1875.C10.gz43_238384	F	M00057015A:H12	UC2-PrimColon
2307	735396	1875.J10.gz43_238391	F	M00057024D:D12	UC2-PrimColon
2308	642693	1875.P10.gz43_238397	F	M00057032A:F12	UC2-PrimColon
2309	733970	1875.D11.gz43_238401	F	M00057016C:B05	UC2-PrimColon
2310	639629	1875.H11.gz43_238405	F	M00057022B:F03	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2311	731577	1875.L11.gz43_238409	F	M00057027B:F06	UC2-PrimColon
2312	733354	1875.B12.gz43_238415	F	M00057014C:E01	UC2-PrimColon
2313	626791	1875.F12.gz43_238419	F	M00057019A:G04	UC2-PrimColon
2314	559699	1875.H12.gz43_238421	F	M00057022B:H04	UC2-PrimColon
2315	726208	1875.A13.gz43_238430	F	M00057013C:E09	UC2-PrimColon
2316	730828	1875.B13.gz43_238431	F	M00057014C:E03	UC2-PrimColon
2317	390968	1875.I13.gz43_238438	F	M00057023D:D05	UC2-PrimColon
2318	471522	1875.O13.gz43_238444	F	M00057031A:H02	UC2-PrimColon
2319	731838	1875.D14.gz43_238449	F	M00057016C:E04	UC2-PrimColon
2320	726476	1875.H14.gz43_238453	F	M00057022C:D12	UC2-PrimColon
2321	466920	1875.I14.gz43_238454	F	M00057023D:D08	UC2-PrimColon
2322	732712	1875.N14.gz43_238459	F	M00057029D:A06	UC2-PrimColon
2323	561338	1875.O14.gz43_238460	F	M00057031B:A01	UC2-PrimColon
2324	733756	1875.A15.gz43_238462	F	M00057013C:H01	UC2-PrimColon
2325	484023	1875.C15.gz43_238464	F	M00057015B:E01	UC2-PrimColon
2326	557262	1875.D15.gz43_238465	F	M00057016C:E11	UC2-PrimColon
2327	559096	1875.E15.gz43_238466	F	M00057017C:E03	UC2-PrimColon
2328	455148	1875.F15.gz43_238467	F	M00057019C:C08	UC2-PrimColon
2329	616985	1875.I15.gz43_238470	F	M00057023D:E11	UC2-PrimColon
2330	733479	1875.N15.gz43_238475	F	M00057029D:F01	UC2-PrimColon
2331	558134	1875.F16.gz43_238483	F	M00057019C:E03	UC2-PrimColon
2332	703298	1875.D17.gz43_238497	F	M00057016D:B07	UC2-PrimColon
2333	477797	1875.G18.gz43_238516	F	M00057021B:B07	UC2-PrimColon
2334	432159	1875.L18.gz43_238521	F	M00057027D:A12	UC2-PrimColon
2335	736385	1875.P18.gz43_238525	F	M00057032D:A04	UC2-PrimColon
2336	619265	1875.B19.gz43_238527	F	M00057014D:E05	UC2-PrimColon
2337	4255	1875.F19.gz43_238531	F	M00057019D:C02	UC2-PrimColon
2338	554080	1875.M19.gz43_238538	F	M00057028D:D09	UC2-PrimColon
2339	734074	1875.C21.gz43_238560	F	M00057016A:B04	UC2-PrimColon
2340	734177	1875.E21.gz43_238562	F	M00057018A:C05	UC2-PrimColon
2341	727761	1875.I21.gz43_238566	F	M00057024A:D08	UC2-PrimColon
2342	733209	1875.L21.gz43_238569	F	M00057027D:D07	UC2-PrimColon
2343	512377	1875.A22.gz43_238574	F	M00057014A:B11	UC2-PrimColon
2344	733664	1875.B22.gz43_238575	F	M00057014D:G10	UC2-PrimColon
2345	640904	1875.D22.gz43_238577	F	M00057016D:H03	UC2-PrimColon
2346	425203	1875.N22.gz43_238587	F	M00057030B:B03	UC2-PrimColon
2347	557164	1875.B23.gz43_238591	F	M00057014D:H01	UC2-PrimColon
2348	494450	1875.C23.gz43_238592	F	M00057016A:G01	UC2-PrimColon
2349	639427	1875.F23.gz43_238595	F	M00057020A:F09	UC2-PrimColon
2350	554693	1875.H23.gz43_238597	F	M00057022D:E10	UC2-PrimColon
2351	732598	1875.K23.gz43_238600	F	M00057026D:A05	UC2-PrimColon
2352	495241	1875.M23.gz43_238602	F	M00057029A:C08	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2353	735989	1875.N23.gz43_238603	F	M00057030B:F01	UC2-PrimColon
2354	726044	1875.I24.gz43_238614	F	M00057024B:A11	UC2-PrimColon
2355	728791	1875.L24.gz43_238617	F	M00057027D:G03	UC2-PrimColon
2356	562769	1875.N24.gz43_238619	F	M00057030C:A05	UC2-PrimColon
2357	479208	1875.P24.gz43_238621	F	M00057033A:D08	UC2-PrimColon
2358	4244	1876.C03.gz43_238656	F	M00057035C:E10	UC2-PrimColon
2359	732159	1876.K03.gz43_238664	F	M00057046A:F02	UC2-PrimColon
2360	473026	1876.E04.gz43_238674	F	M00057038A:H07	UC2-PrimColon
2361	736385	1876.B05.gz43_238687	F	M00057034C:G12	UC2-PrimColon
2362	734466	1876.J05.gz43_238695	F	M00057045A:C04	UC2-PrimColon
2363	668731	1876.K05.gz43_238696	F	M00057046A:G05	UC2-PrimColon
2364	736881	1876.H06.gz43_238709	F	M00057042D:E06	UC2-PrimColon
2365	466920	1876.O06.gz43_238716	F	M00057051B:E09	UC2-PrimColon
2366	728353	1876.E07.gz43_238722	F	M00057038C:B06	UC2-PrimColon
2367	732246	1876.N07.gz43_238731	F	M00057049D:F12	UC2-PrimColon
2368	468296	1876.A08.gz43_238734	F	M00057033C:B03	UC2-PrimColon
2369	454819	1876.E09.gz43_238754	F	M00057038C:G08	UC2-PrimColon
2370	481293	1876.M10.gz43_238778	F	M00057048C:E04	UC2-PrimColon
2371	735815	1876.E11.gz43_238786	F	M00057038D:A12	UC2-PrimColon
2372	732315	1876.H12.gz43_238805	F	M00057043A:G07	UC2-PrimColon
2373	558573	1876.M12.gz43_238810	F	M00057048C:H11	UC2-PrimColon
2374	492627	1876.G13.gz43_238820	F	M00057041D:C08	UC2-PrimColon
2375	732042	1876.K14.gz43_238840	F	M00057046C:E05	UC2-PrimColon
2376	737087	1876.N14.gz43_238843	F	M00057050B:F06	UC2-PrimColon
2377	456469	1876.A16.gz43_238862	F	M00057033D:F10	UC2-PrimColon
2378	735871	1876.I16.gz43_238870	F	M00057044C:B05	UC2-PrimColon
2379	736855	1876.F18.gz43_238899	F	M00057040D:H04	UC2-PrimColon
2380	732562	1876.M20.gz43_238938	F	M00057048D:H10	UC2-PrimColon
2381	727321	1876.G22.gz43_238964	F	M00057042B:A10	UC2-PrimColon
2382	638857	1876.H22.gz43_238965	F	M00057043C:H11	UC2-PrimColon
2383	735972	1876.A23.gz43_238974	F	M00057034B:B01	UC2-PrimColon
2384	735054	1876.L23.gz43_238985	F	M00057047D:H04	UC2-PrimColon
2385	554854	1885.M01.gz43_239018	F	M00057068D:F04	UC2-PrimColon
2386	731262	1885.O01.gz43_239020	F	M00057071A:A10	UC2-PrimColon
2387	729981	1885.C02.gz43_239024	F	M00057055C:F01	UC2-PrimColon
2388	735292	1885.F02.gz43_239027	F	M00057059D:H09	UC2-PrimColon
2389	726699	1885.L02.gz43_239033	F	M00057067D:H06	UC2-PrimColon
2390	624133	1885.O02.gz43_239036	F	M00057071A:B04	UC2-PrimColon
2391	645262	1885.A03.gz43_239038	F	M00057053A:A02	UC2-PrimColon
2392	558549	1885.K03.gz43_239048	F	M00057066D:B03	UC2-PrimColon
2393	736093	1885.L03.gz43_239049	F	M00057068A:C10	UC2-PrimColon
2394	733573	1885.G04.gz43_239060	F	M00057061B:H02	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2395	481366	1885.I04.gz43_239062	F	M00057064B:H10	UC2-PrimColon
2396	556385	1885.N04.gz43_239067	F	M00057070A:B07	UC2-PrimColon
2397	559656	1885.L05.gz43_239081	F	M00057068A:F05	UC2-PrimColon
2398	446616	1885.A06.gz43_239086	F	M00057053A:D11	UC2-PrimColon
2399	728445	1885.C06.gz43_239088	F	M00057055C:H07	UC2-PrimColon
2400	732223	1885.D06.gz43_239089	F	M00057056D:F11	UC2-PrimColon
2401	595506	1885.G06.gz43_239092	F	M00057061C:D04	UC2-PrimColon
2402	627515	1885.K06.gz43_239096	F	M00057066D:E01	UC2-PrimColon
2403	730528	1885.L06.gz43_239097	F	M00057068A:F07	UC2-PrimColon
2404	451233	1885.E07.gz43_239106	F	M00057058D:G08	UC2-PrimColon
2405	728884	1885.H07.gz43_239109	F	M00057063A:C08	UC2-PrimColon
2406	541793	1885.I07.gz43_239110	F	M00057064C:F11	UC2-PrimColon
2407	736415	1885.L08.gz43_239129	F	M00057068A:G05	UC2-PrimColon
2408	552641	1885.F09.gz43_239139	F	M00057060B:D07	UC2-PrimColon
2409	736156	1885.G09.gz43_239140	F	M00057061D:D03	UC2-PrimColon
2410	560581	1885.M09.gz43_239146	F	M00057069A:F09	UC2-PrimColon
2411	654723	1885.D10.gz43_239153	F	M00057057A:G01	UC2-PrimColon
2412	731449	1885.E10.gz43_239154	F	M00057059A:B04	UC2-PrimColon
2413	452623	1885.G10.gz43_239156	F	M00057061D:F05	UC2-PrimColon
2414	732072	1885.M10.gz43_239162	F	M00057069A:H08	UC2-PrimColon
2415	452224	1885.P10.gz43_239165	F	M00057072C:A03	UC2-PrimColon
2416	550637	1885.K11.gz43_239176	F	M00057067B:C11	UC2-PrimColon
2417	453508	1885.M11.gz43_239178	F	M00057069B:A08	UC2-PrimColon
2418	732872	1885.A12.gz43_239182	F	M00057053C:B10	UC2-PrimColon
2419	735283	1885.P12.gz43_239197	F	M00057072C:A09	UC2-PrimColon
2420	422590	1885.D13.gz43_239201	F	M00057057B:E06	UC2-PrimColon
2421	422242	1885.J13.gz43_239207	F	M00057066A:A09	UC2-PrimColon
2422	471982	1885.D14.gz43_239217	F	M00057057B:E07	UC2-PrimColon
2423	736285	1885.H14.gz43_239221	F	M00057063B:F06	UC2-PrimColon
2424	734787	1885.P14.gz43_239229	F	M00057072C:C02	UC2-PrimColon
2425	733623	1885.A15.gz43_239230	F	M00057053C:G04	UC2-PrimColon
2426	736318	1885.D15.gz43_239233	F	M00057057B:G03	UC2-PrimColon
2427	677769	1885.A16.gz43_239246	F	M00057053D:D01	UC2-PrimColon
2428	726380	1885.B16.gz43_239247	F	M00057055B:D07	UC2-PrimColon
2429	134501	1885.C16.gz43_239248	F	M00057056B:C06	UC2-PrimColon
2430	731844	1885.F16.gz43_239251	F	M00057060C:D05	UC2-PrimColon
2431	730472	1885.B17.gz43_239263	F	M00057055B:E10	UC2-PrimColon
2432	455884	1885.C17.gz43_239264	F	M00057056B:D05	UC2-PrimColon
2433	669159	1885.H17.gz43_239269	F	M00057063C:C04	UC2-PrimColon
2434	736146	1885.K17.gz43_239272	F	M00057067C:D04	UC2-PrimColon
2435	729502	1885.A18.gz43_239278	F	M00057054A:B12	UC2-PrimColon
2436	731830	1885.C18.gz43_239280	F	M00057056B:D11	UC2-PrimColon



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2437	706245	1885.N18.gz43_239291	F	M00057070C:H10	UC2-PrimColon
2438	631526	1885.P18.gz43_239293	F	M00057072C:H01	UC2-PrimColon
2439	736113	1885.A19.gz43_239294	F	M00057054A:D01	UC2-PrimColon
2440	567005	1885.B19.gz43_239295	F	M00057055B:F05	UC2-PrimColon
2441	730128	1885.K19.gz43_239304	F	M00057067C:H09	UC2-PrimColon
2442	620462	1885.E20.gz43_239314	F	M00057059C:H02	UC2-PrimColon
2443	450551	1885.F20.gz43_239315	F	M00057060D:C09	UC2-PrimColon
2444	724773	1885.L20.gz43_239321	F	M00057068D:B03	UC2-PrimColon
2445	735028	1885.N20.gz43_239323	F	M00057070D:B08	UC2-PrimColon
2446	476947	1885.E21.gz43_239330	F	M00057059D:A09	UC2-PrimColon
2447	420958	1885.I21.gz43_239334	F	M00057065C:B07	UC2-PrimColon
2448	447758	1885.O21.gz43_239340	F	M00057071D:E01	UC2-PrimColon
2449	447075	1885.G22.gz43_239348	F	M00057062B:H04	UC2-PrimColon
2450	455248	1885.L22.gz43_239353	F	M00057068D:C09	UC2-PrimColon
2451	732351	1885.O22.gz43_239356	F	M00057071D:G01	UC2-PrimColon
2452	620159	1885.P22.gz43_239357	F	M00057073A:B12	UC2-PrimColon
2453	472704	1885.K23.gz43_239368	F	M00057067D:F03	UC2-PrimColon
2454	649349	1885.N23.gz43_239371	F	M00057070D:G03	UC2-PrimColon
2455	735216	1885.F24.gz43_239379	F	M00057061A:F09	UC2-PrimColon
2456	572273	1885.J24.gz43_239383	F	M00057066C:B02	UC2-PrimColon
2457	736210	1885.L24.gz43_239385	F	M00057068D:E05	UC2-PrimColon
2458	731358	1886.M02.gz43_239418	F	M00057088B:E02	UC2-PrimColon
2459	639629	1886.D03.gz43_239425	F	M00057077B:B06	UC2-PrimColon
2460	733910	1886.L03.gz43_239433	F	M00057087B:A07	UC2-PrimColon
2461	473588	1886.N04.gz43_239451	F	M00057090A:B02	UC2-PrimColon
2462	727407	1886.N05.gz43_239467	F	M00057090A:C03	UC2-PrimColon
2463	368965	1886.H07.gz43_239493	F	M00057082C:G03	UC2-PrimColon
2464	734059	1886.L13.gz43_239593	F	M00057087D:B04	UC2-PrimColon
2465	419465	1886.P15.gz43_239629	F	M00057092C:A05	UC2-PrimColon
2466	732487	1886.A18.gz43_239662	F	M00057073D:H05	UC2-PrimColon
2467	538582	1886.M20.gz43_239706	F	M00057089B:D01	UC2-PrimColon
2468	732131	1886.O22.gz43_239740	F	M00057091D:F11	UC2-PrimColon
2469	556212	1886.E23.gz43_239746	F	M00057079A:F05	UC2-PrimColon
2470	731966	1886.M24.gz43_239770	F	M00057089D:E03	UC2-PrimColon
2471	732873	1887.C02.gz43_239809	F	M00057095B:G03	UC2-PrimColon
2472	732550	1887.G02.gz43_239813	F	M00057099D:D11	UC2-PrimColon
2473	731477	1887.D04.gz43_239842	F	M00057096C:B08	UC2-PrimColon
2474	485441	1887.I04.gz43_239847	F	M00057102A:F12	UC2-PrimColon
2475	533689	1887.B05.gz43_239856	F	M00057094B:D07	UC2-PrimColon
2476	735515	1887.H05.gz43_239862	F	M00057100D:E09	UC2-PrimColon
2477	678846	1887.M06.gz43_239883	F	M00057106A:H04	UC2-PrimColon
2478	638908	1887.P06.gz43_239886	F	M00057110C:A04	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2479	516799	1887.L07.gz43_239898	F	M00057105C:C06	UC2-PrimColon
2480	553898	1887.A08.gz43_239903	F	M00057093C:A02	UC2-PrimColon
2481	644354	1887.F09.gz43_239924	F	M00057099A:C04	UC2-PrimColon
2482	731697	1887.K09.gz43_239929	F	M00057104D:A02	UC2-PrimColon
2483	645139	1887.F10.gz43_239940	F	M00057099A:H12	UC2-PrimColon
2484	732885	1887.O10.gz43_239949	F	M00057109A:F11	UC2-PrimColon
2485	736634	1887.A11.gz43_239951	F	M00057093C:E01	UC2-PrimColon
2486	457842	1887.D11.gz43_239954	F	M00057096D:H05	UC2-PrimColon
2487	654475	1887.F11.gz43_239956	F	M00057099B:A06	UC2-PrimColon
2488	543772	1887.I12.gz43_239975	F	M00057102B:E12	UC2-PrimColon
2489	734344	1887.L12.gz43_239978	F	M00057105C:G02	UC2-PrimColon
2490	693869	1887.N12.gz43_239980	F	M00057108B:A12	UC2-PrimColon
2491	733348	1887.O12.gz43_239981	F	M00057109A:H09	UC2-PrimColon
2492	733209	1887.L14.gz43_240010	F	M00057105D:C10	UC2-PrimColon
2493	401368	1887.F15.gz43_240020	F	M00057099B:D02	UC2-PrimColon
2494	452276	1887.I17.gz43_240055	F	M00057102D:C11	UC2-PrimColon
2495	736220	1887.P17.gz43_240062	F	M00057110D:E12	UC2-PrimColon
2496	735584	1887.G18.gz43_240069	F	M00057100C:F02	UC2-PrimColon
2497	448325	1887.J19.gz43_240088	F	M00057104A:H06	UC2-PrimColon
2498	732312	1887.O19.gz43_240093	F	M00057109C:D10	UC2-PrimColon
2499	477387	1887.C20.gz43_240097	F	M00057096B:C05	UC2-PrimColon
2500	729222	1887.D20.gz43_240098	F	M00057097B:E02	UC2-PrimColon
2501	733972	1887.F20.gz43_240100	F	M00057099C:A06	UC2-PrimColon
2502	735113	1887.B21.gz43_240112	F	M00057095A:F11	UC2-PrimColon
2503	650920	1887.I21.gz43_240119	F	M00057103A:F11	UC2-PrimColon
2504	729560	1887.O24.gz43_240173	F	M00057110A:A03	UC2-PrimColon
2505	415825	1888.A01.gz43_240175	F	M00057112A:C12	UC2-PrimColon
2506	733225	1888.D01.gz43_240178	F	M00057115D:C10	UC2-PrimColon
2507	732113	1888.D02.gz43_240194	F	M00057115D:D06	UC2-PrimColon
2508	568632	1888.L03.gz43_240218	F	M00057126D:A04	UC2-PrimColon
2509	736539	1888.J04.gz43_240232	F	M00057124A:G08	UC2-PrimColon
2510	602673	1888.D05.gz43_240242	F	M00057115D:F06	UC2-PrimColon
2511	553264	1888.F06.gz43_240260	F	M00057118B:E10	UC2-PrimColon
2512	555655	1888.G06.gz43_240261	F	M00057120A:D01	UC2-PrimColon
2513	736534	1888.K06.gz43_240265	F	M00057125C:B11	UC2-PrimColon
2514	451764	1888.O06.gz43_240269	F	M00057129D:F03	UC2-PrimColon
2515	732896	1888.D07.gz43_240274	F	M00057116A:B06	UC2-PrimColon
2516	733365	1888.I07.gz43_240279	F	M00057122D:A01	UC2-PrimColon
2517	736548	1888.O08.gz43_240301	F	M00057130A:A02	UC2-PrimColon
2518	553338	1888.H09.gz43_240310	F	M00057121B:H10	UC2-PrimColon
2519	105056	1888.K10.gz43_240329	F	M00057125C:E02	UC2-PrimColon
2520	288535	1888.O10.gz43_240333	F	M00057130A:A11	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2521	453733	1888.G12.gz43_240357	F	M00057120C:B09	UC2-PrimColon
2522	552783	1888.H12.gz43_240358	F	M00057121C:E08	UC2-PrimColon
2523	732937	1888.I12.gz43_240359	F	M00057123A:F09	UC2-PrimColon
2524	542490	1888.K12.gz43_240361	F	M00057125D:B02	UC2-PrimColon
2525	553087	1888.L12.gz43_240362	F	M00057127A:E10	UC2-PrimColon
2526	609459	1888.G14.gz43_240389	F	M00057120C:F08	UC2-PrimColon
2527	736810	1888.O14.gz43_240397	F	M00057130A:D10	UC2-PrimColon
2528	735959	1888.L15.gz43_240410	F	M00057127A:H10	UC2-PrimColon
2529	560868	1888.H17.gz43_240438	F	M00057122A:A07	UC2-PrimColon
2530	726176	1888.P17.gz43_240446	F	M00057131D:D02	UC2-PrimColon
2531	724952	1888.A18.gz43_240447	F	M00057112D:G08	UC2-PrimColon
2532	1030	1888.H18.gz43_240454	F	M00057122A:C04	UC2-PrimColon
2533	454961	1888.L18.gz43_240458	F	M00057127B:D10	UC2-PrimColon
2534	643517	1888.C19.gz43_240465	F	M00057115C:B11	UC2-PrimColon
2535	733006	1888.H19.gz43_240470	F	M00057122A:C11	UC2-PrimColon
2536	733171	1888.A20.gz43_240479	F	M00057113A:A08	UC2-PrimColon
2537	735018	1888.B20.gz43_240480	F	M00057114C:E07	UC2-PrimColon
2538	728479	1888.B21.gz43_240496	F	M00057114C:F08	UC2-PrimColon
2539	726575	1888.J21.gz43_240504	F	M00057125A:A07	UC2-PrimColon
2540	734606	1888.I22.gz43_240519	F	M00057123D:F07	UC2-PrimColon
2541	732476	1888.D23.gz43_240530	F	M00057116C:H09	UC2-PrimColon
2542	656263	1888.H23.gz43_240534	F	M00057122B:F04	UC2-PrimColon
2543	662617	1888.K23.gz43_240537	F	M00057126C:C05	UC2-PrimColon
2544	474108	1888.D24.gz43_240546	F	M00057116D:B10	UC2-PrimColon
2545	455581	1888.J24.gz43_240552	F	M00057125A:F07	UC2-PrimColon
2546	447692	1888.L24.gz43_240554	F	M00057127C:F03	UC2-PrimColon
2547	735514	1888.M24.gz43_240555	F	M00057128C:H02	UC2-PrimColon
2548	440284	1888.N24.gz43_240556	F	M00057129D:D07	UC2-PrimColon
2549	639644	1897.A02.gz43_240575	F	M00057132B:H05	UC2-PrimColon
2550	568031	1897.G02.gz43_240581	F	M00057139A:G08	UC2-PrimColon
2551	555960	1897.L02.gz43_240586	F	M00057144D:D03	UC2-PrimColon
2552	462779	1897.M02.gz43_240587	F	M00057145D:E01	UC2-PrimColon
2553	472068	1897.C03.gz43_240593	F	M00057134B:D06	UC2-PrimColon
2554	728413	1897.N03.gz43_240604	F	M00057147A:B07	UC2-PrimColon
2555	519378	1897.P03.gz43_240606	F	M00057149B:B07	UC2-PrimColon
2556	733951	1897.A04.gz43_240607	F	M00057132C:C04	UC2-PrimColon
2557	448212	1897.P04.gz43_240622	F	M00057149B:B08	UC2-PrimColon
2558	536225	1897.B05.gz43_240624	F	M00057133C:B02	UC2-PrimColon
2559	736288	1897.F05.gz43_240628	F	M00057138A:F02	UC2-PrimColon
2560	225960	1897.E06.gz43_240643	F	M00057137A:H12	UC2-PrimColon
2561	655327	1897.H08.gz43_240678	F	M00057140B:H01	UC2-PrimColon
2562	735729	1897.N08.gz43_240684	F	M00057147A:H07	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2563	642273	1897.F09.gz43_240692	F	M00057138B:B02	UC2-PrimColon
2564	549285	1897.O09.gz43_240701	F	M00057148C:B02	UC2-PrimColon
2565	735756	1897.P11.gz43_240734	F	M00057149C:H01	UC2-PrimColon
2566	640662	1897.E12.gz43_240739	F	M00057137B:C07	UC2-PrimColon
2567	543772	1897.F12.gz43_240740	F	M00057138B:H02	UC2-PrimColon
2568	735801	1897.M12.gz43_240747	F	M00057146A:H05	UC2-PrimColon
2569	457846	1897.N12.gz43_240748	F	M00057147C:B01	UC2-PrimColon
2570	736318	1897.O12.gz43_240749	F	M00057148C:C09	UC2-PrimColon
2571	658271	1897.K13.gz43_240761	F	M00057144B:D04	UC2-PrimColon
2572	735283	1897.M13.gz43_240763	F	M00057146B:C06	UC2-PrimColon
2573	447550	1897.A15.gz43_240783	F	M00057133A:B07	UC2-PrimColon
2574	500758	1897.H15.gz43_240790	F	M00057140D:B03	UC2-PrimColon
2575	567005	1897.H17.gz43_240822	F	M00057140D:F02	UC2-PrimColon
2576	523171	1897.K17.gz43_240825	F	M00057144B:H10	UC2-PrimColon
2577	397515	1897.M17.gz43_240827	F	M00057146B:H12	UC2-PrimColon
2578	736318	1897.F18.gz43_240836	F	M00057138D:F03	UC2-PrimColon
2579	449035	1897.I18.gz43_240839	F	M00057142A:H07	UC2-PrimColon
2580	486076	1897.K18.gz43_240841	F	M00057144C:A02	UC2-PrimColon
2581	729843	1897.O18.gz43_240845	F	M00057149A:A04	UC2-PrimColon
2582	726440	1897.F19.gz43_240852	F	M00057138D:F10	UC2-PrimColon
2583	731317	1897.G19.gz43_240853	F	M00057139D:G07	UC2-PrimColon
2584	559004	1897.I22.gz43_240903	F	M00057142B:F06	UC2-PrimColon
2585	448202	1897.L22.gz43_240906	F	M00057145C:H03	UC2-PrimColon
2586	718314	1897.N22.gz43_240908	F	M00057147D:H09	UC2-PrimColon
2587	735989	1897.C23.gz43_240913	F	M00057135A:B02	UC2-PrimColon
2588	489001	1897.F23.gz43_240916	F	M00057139A:B10	UC2-PrimColon
2589	462779	1897.H23.gz43_240918	F	M00057141A:G06	UC2-PrimColon
2590	596809	1898.C02.gz43_242213	F	M00057153B:G07	UC2-PrimColon
2591	447003	1898.A03.gz43_242227	F	M00057150D:C04	UC2-PrimColon
2592	730661	1898.D04.gz43_242246	F	M00057155A:E11	UC2-PrimColon
2593	461316	1898.H04.gz43_242250	F	M00057160D:A11	UC2-PrimColon
2594	450724	1898.A05.gz43_242259	F	M00057150D:F08	UC2-PrimColon
2595	480307	1898.B05.gz43_242260	F	M00057152B:H02	UC2-PrimColon
2596	727608	1898.F05.gz43_242264	F	M00057157D:H08	UC2-PrimColon
2597	649852	1898.P05.gz43_242274	F	M00057169A:F05	UC2-PrimColon
2598	650297	1898.A06.gz43_242275	F	M00057151A:B04	UC2-PrimColon
2599	491933	1898.E06.gz43_242279	F	M00057156B:D10	UC2-PrimColon
2600	733552	1898.P06.gz43_242290	F	M00057169A:F06	UC2-PrimColon
2601	730341	1898.D07.gz43_242294	F	M00057155A:G11	UC2-PrimColon
2602	640563	1898.D08.gz43_242310	F	M00057155A:H07	UC2-PrimColon
2603	640603	1898.B10.gz43_242340	F	M00057152C:C10	UC2-PrimColon
2604	552972	1898.E10.gz43_242343	F	M00057156C:E08	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2605	736030	1898.F10.gz43_242344	F	M00057158B:C02	UC2-PrimColon
2606	736228	1898.G11.gz43_242361	F	M00057159C:E11	UC2-PrimColon
2607	648820	1898.M11.gz43_242367	F	M00057165D:H05	UC2-PrimColon
2608	735993	1898.D12.gz43_242374	F	M00057155C:B07	UC2-PrimColon
2609	402516	1898.H12.gz43_242378	F	M00057161B:D02	UC2-PrimColon
2610	583625	1898.O12.gz43_242385	F	M00057168B:D02	UC2-PrimColon
2611	726448	1898.N13.gz43_242400	F	M00057167A:D08	UC2-PrimColon
2612	735756	1898.H14.gz43_242410	F	M00057161B:E07	UC2-PrimColon
2613	551654	1898.C15.gz43_242421	F	M00057153D:H01	UC2-PrimColon
2614	558477	1898.D15.gz43_242422	F	M00057155C:G04	UC2-PrimColon
2615	728353	1898.I15.gz43_242427	F	M00057162B:E10	UC2-PrimColon
2616	736634	1898.M15.gz43_242431	F	M00057166B:B07	UC2-PrimColon
2617	737006	1898.P15.gz43_242434	F	M00057169C:H10	UC2-PrimColon
2618	736288	1898.J16.gz43_242444	F	M00057163C:D06	UC2-PrimColon
2619	734794	1898.P16.gz43_242450	F	M00057169C:H12	UC2-PrimColon
2620	734928	1898.E17.gz43_242455	F	M00057156D:F02	UC2-PrimColon
2621	727976	1898.F17.gz43_242456	F	M00057158C:C10	UC2-PrimColon
2622	736790	1898.F19.gz43_242488	F	M00057158C:G05	UC2-PrimColon
2623	735633	1898.I21.gz43_242523	F	M00057162C:C01	UC2-PrimColon
2624	734484	1898.B22.gz43_242532	F	M00057153B:A04	UC2-PrimColon
2625	480142	1898.D22.gz43_242534	F	M00057155D:E12	UC2-PrimColon
2626	454073	1898.G22.gz43_242537	F	M00057160B:G08	UC2-PrimColon
2627	599714	1898.L22.gz43_242542	F	M00057165C:E08	UC2-PrimColon
2628	737042	1898.M22.gz43_242543	F	M00057166B:G06	UC2-PrimColon
2629	405016	1898.N22.gz43_242544	F	M00057167C:A05	UC2-PrimColon
2630	723915	1898.L23.gz43_242558	F	M00057165C:F05	UC2-PrimColon
2631	737006	1898.O23.gz43_242561	F	M00057168C:D03	UC2-PrimColon
2632	734808	1898.B24.gz43_242564	F	M00057153B:D02	UC2-PrimColon
2633	471887	1898.P24.gz43_242578	F	M00057170A:D11	UC2-PrimColon
2634	733972	1899.A01.gz43_242579	F	M00057170A:D06	UC2-PrimColon
2635	554221	1899.J01.gz43_242588	F	M00057181C:D10	UC2-PrimColon
2636	735426	1899.N01.gz43_242592	F	M00057192A:D12	UC2-PrimColon
2637	454812	1899.P01.gz43_242594	F	M00057194C:A03	UC2-PrimColon
2638	562453	1899.D02.gz43_242598	F	M00057173D:B12	UC2-PrimColon
2639	554683	1899.M02.gz43_242607	F	M00057189D:G08	UC2-PrimColon
2640	474346	1899.N02.gz43_242608	F	M00057192A:F01	UC2-PrimColon
2641	729039	1899.D03.gz43_242614	F	M00057173D:C07	UC2-PrimColon
2642	560183	1899.J03.gz43_242620	F	M00057181C:G07	UC2-PrimColon
2643	422590	1899.D04.gz43_242630	F	M00057173D:E04	UC2-PrimColon
2644	642936	1899.K04.gz43_242637	F	M00057182C:C03	UC2-PrimColon
2645	730106	1899.N04.gz43_242640	F	M00057192A:H05	UC2-PrimColon
2646	449548	1899.H05.gz43_242650	F	M00057179C:B05	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2647	736861	1899.P05.gz43_242658	F	M00057194C:F02	UC2-PrimColon
2648	730220	1899.A06.gz43_242659	F	M00057170A:H04	UC2-PrimColon
2649	736309	1899.I06.gz43_242667	F	M00057180C:F09	UC2-PrimColon
2650	373615	1899.K06.gz43_242669	F	M00057182C:C11	UC2-PrimColon
2651	640635	1899.O06.gz43_242673	F	M00057193C:F11	UC2-PrimColon
2652	735764	1899.F07.gz43_242680	F	M00057176A:H10	UC2-PrimColon
2653	735801	1899.J07.gz43_242684	F	M00057181D:C09	UC2-PrimColon
2654	477098	1899.K07.gz43_242685	F	M00057182D:A08	UC2-PrimColon
2655	734031	1899.M07.gz43_242687	F	M00057191A:H09	UC2-PrimColon
2656	419711	1899.N07.gz43_242688	F	M00057192B:D10	UC2-PrimColon
2657	390968	1899.P07.gz43_242690	F	M00057194C:F10	UC2-PrimColon
2658	732625	1899.E08.gz43_242695	F	M00057175B:G12	UC2-PrimColon
2659	462986	1899.F08.gz43_242696	F	M00057176A:H12	UC2-PrimColon
2660	482512	1899.H08.gz43_242698	F	M00057179C:G10	UC2-PrimColon
2661	473238	1899.C09.gz43_242709	F	M00057172D:F08	UC2-PrimColon
2662	735789	1899.I09.gz43_242715	F	M00057180D:C10	UC2-PrimColon
2663	736595	1899.K09.gz43_242717	F	M00057182D:B11	UC2-PrimColon
2664	735514	1899.M09.gz43_242719	F	M00057191B:C06	UC2-PrimColon
2665	630516	1899.O09.gz43_242721	F	M00057193D:F06	UC2-PrimColon
2666	730899	1899.N10.gz43_242736	F	M00057192C:B11	UC2-PrimColon
2667	552055	1899.P10.gz43_242738	F	M00057194D:C12	UC2-PrimColon
2668	528404	1899.C11.gz43_242741	F	M00057173A:C07	UC2-PrimColon
2669	734209	1899.D11.gz43_242742	F	M00057174B:C06	UC2-PrimColon
2670	452243	1899.J11.gz43_242748	F	M00057181D:H07	UC2-PrimColon
2671	734061	1899.O11.gz43_242753	F	M00057194A:B07	UC2-PrimColon
2672	625988	1899.G12.gz43_242761	F	M00057177C:D07	UC2-PrimColon
2673	561632	1899.D13.gz43_242774	F	M00057174B:C11	UC2-PrimColon
2674	731370	1899.E13.gz43_242775	F	M00057175C:D02	UC2-PrimColon
2675	480142	1899.G13.gz43_242777	F	M00057177C:G11	UC2-PrimColon
2676	736049	1899.O13.gz43_242785	F	M00057194A:C06	UC2-PrimColon
2677	725691	1899.A14.gz43_242787	F	M00057170C:C01	UC2-PrimColon
2678	727523	1899.M14.gz43_242799	F	M00057191C:D02	UC2-PrimColon
2679	421794	1899.D15.gz43_242806	F	M00057174B:F11	UC2-PrimColon
2680	732429	1899.G15.gz43_242809	F	M00057177C:H04	UC2-PrimColon
2681	530883	1899.H15.gz43_242810	F	M00057180A:H11	UC2-PrimColon
2682	729173	1899.P15.gz43_242818	F	M00057196A:E03	UC2-PrimColon
2683	734744	1899.D16.gz43_242822	F	M00057174B:G03	UC2-PrimColon
2684	735605	1899.F16.gz43_242824	F	M00057176B:F10	UC2-PrimColon
2685	726786	1899.N16.gz43_242832	F	M00057192D:G02	UC2-PrimColon
2686	725089	1899.O16.gz43_242833	F	M00057194A:F01	UC2-PrimColon
2687	448770	1899.D17.gz43_242838	F	M00057174B:G12	UC2-PrimColon
2688	532904	1899.E17.gz43_242839	F	M00057175D:A12	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2689	560568	1899.K17.gz43_242845	F	M00057186A:E12	UC2-PrimColon
2690	736402	1899.N17.gz43_242848	F	M00057192D:G04	UC2-PrimColon
2691	516729	1899.P17.gz43_242850	F	M00057196B:H10	UC2-PrimColon
2692	718314	1899.H18.gz43_242858	F	M00057180B:C06	UC2-PrimColon
2693	737116	1899.J18.gz43_242860	F	M00057182A:H07	UC2-PrimColon
2694	723985	1899.B19.gz43_242868	F	M00057172A:B02	UC2-PrimColon
2695	573733	1899.F19.gz43_242872	F	M00057176C:H08	UC2-PrimColon
2696	475872	1899.H19.gz43_242874	F	M00057180B:D01	UC2-PrimColon
2697	625988	1899.F20.gz43_242888	F	M00057176D:A03	UC2-PrimColon
2698	736354	1899.L20.gz43_242894	F	M00057189C:G11	UC2-PrimColon
2699	535866	1899.C21.gz43_242901	F	M00057173C:C07	UC2-PrimColon
2700	648221	1899.D21.gz43_242902	F	M00057174C:G07	UC2-PrimColon
2701	736280	1899.H21.gz43_242906	F	M00057180B:F05	UC2-PrimColon
2702	156329	1899.N21.gz43_242912	F	M00057193B:C11	UC2-PrimColon
2703	721768	1899.O21.gz43_242913	F	M00057194B:E05	UC2-PrimColon
2704	639507	1899.B22.gz43_242916	F	M00057172A:H06	UC2-PrimColon
2705	451383	1899.E22.gz43_242919	F	M00057175D:E12	UC2-PrimColon
2706	349977	1899.J22.gz43_242924	F	M00057182B:D09	UC2-PrimColon
2707	734928	1899.M22.gz43_242927	F	M00057191D:G10	UC2-PrimColon
2708	480623	1899.A23.gz43_242931	F	M00057170D:B08	UC2-PrimColon
2709	674526	1899.H23.gz43_242938	F	M00057180B:G06	UC2-PrimColon
2710	730805	1899.M23.gz43_242943	F	M00057192A:B04	UC2-PrimColon
2711	640350	1900.G01.gz43_242969	F	M00057206A:C06	UC2-PrimColon
2712	726449	1900.K01.gz43_242973	F	M00057210A:C12	UC2-PrimColon
2713	552457	1900.E02.gz43_242983	F	M00057203B:F08	UC2-PrimColon
2714	730308	1900.C04.gz43_243013	F	M00057200D:E03	UC2-PrimColon
2715	734993	1900.E04.gz43_243015	F	M00057203C:A09	UC2-PrimColon
2716	562320	1900.H04.gz43_243018	F	M00057207B:F06	UC2-PrimColon
2717	556656	1900.O04.gz43_243025	F	M00057216D:D05	UC2-PrimColon
2718	446752	1900.D06.gz43_243046	F	M00057202A:D05	UC2-PrimColon
2719	736738	1900.L06.gz43_243054	F	M00057211C:C06	UC2-PrimColon
2720	639395	1900.O07.gz43_243073	F	M00057216D:F10	UC2-PrimColon
2721	516729	1900.B08.gz43_243076	F	M00057199B:B06	UC2-PrimColon
2722	557262	1900.E08.gz43_243079	F	M00057203D:A09	UC2-PrimColon
2723	731531	1900.I08.gz43_243083	F	M00057208B:H08	UC2-PrimColon
2724	736778	1900.K08.gz43_243085	F	M00057210C:D09	UC2-PrimColon
2725	724638	1900.O10.gz43_243121	F	M00057217A:A12	UC2-PrimColon
2726	483061	1900.B12.gz43_243140	F	M00057199C:H08	UC2-PrimColon
2727	725905	1900.C12.gz43_243141	F	M00057201A:H03	UC2-PrimColon
2728	648757	1900.M12.gz43_243151	F	M00057213C:D06	UC2-PrimColon
2729	735797	1900.A14.gz43_243171	F	M00057197D:H10	UC2-PrimColon
2730	732771	1900.I14.gz43_243179	F	M00057208C:E12	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2731	736276	1900.E15.gz43_243191	F	M00057204A:F11	UC2-PrimColon
2732	449078	1900.O19.gz43_243265	F	M00057217B:F12	UC2-PrimColon
2733	161489	1900.A20.gz43_243267	F	M00057198B:C02	UC2-PrimColon
2734	734226	1900.F20.gz43_243272	F	M00057205D:G06	UC2-PrimColon
2735	736500	1900.G20.gz43_243273	F	M00057207A:A07	UC2-PrimColon
2736	733272	1900.K20.gz43_243277	F	M00057211A:D01	UC2-PrimColon
2737	532904	1900.B22.gz43_243300	F	M00057200B:D04	UC2-PrimColon
2738	648379	1900.K22.gz43_243309	F	M00057211B:A08	UC2-PrimColon
2739	649490	1900.M22.gz43_243311	F	M00057214B:B12	UC2-PrimColon
2740	186522	1900.N22.gz43_243312	F	M00057216C:D12	UC2-PrimColon
2741	561626	1900.E24.gz43_243335	F	M00057204C:G06	UC2-PrimColon
2742	653616	1900.K24.gz43_243341	F	M00057211B:C09	UC2-PrimColon
2743	734828	1909.G01.gz43_243353	F	M00057225C:H07	UC2-PrimColon
2744	427113	1909.H01.gz43_243354	F	M00057226C:E05	UC2-PrimColon
2745	561877	1909.K01.gz43_243357	F	M00057231B:A01	UC2-PrimColon
2746	454563	1909.M01.gz43_243359	F	M00057233B:G04	UC2-PrimColon
2747	625810	1909.P01.gz43_243362	F	M00057236D:H09	UC2-PrimColon
2748	475562	1909.F02.gz43_243368	F	M00057224C:B02	UC2-PrimColon
2749	735749	1909.K02.gz43_243373	F	M00057231C:B04	UC2-PrimColon
2750	289328	1909.B03.gz43_243380	F	M00057219D:G11	UC2-PrimColon
2751	465697	1909.C03.gz43_243381	F	M00057220D:E06	UC2-PrimColon
2752	726892	1909.E03.gz43_243383	F	M00057223B:G01	UC2-PrimColon
2753	723959	1909.I03.gz43_243388	F	M00057230C:C05	UC2-PrimColon
2754	733874	1909.N03.gz43_243392	F	M00057234D:A12	UC2-PrimColon
2755	454129	1909.A04.gz43_243395	F	M00057218C:F10	UC2-PrimColon
2756	733868	1909.B04.gz43_243396	F	M00057219D:H04	UC2-PrimColon
2757	642940	1909.H04.gz43_243402	F	M00057226C:F12	UC2-PrimColon
2758	398061	1909.D05.gz43_243414	F	M00057222B:A06	UC2-PrimColon
2759	734690	1909.G05.gz43_243417	F	M00057225D:E01	UC2-PrimColon
2760	601051	1909.N05.gz43_243424	F	M00057234D:E04	UC2-PrimColon
2761	727255	1909.E06.gz43_243431	F	M00057223C:B01	UC2-PrimColon
2762	632499	1909.I06.gz43_243435	F	M00057229A:B03	UC2-PrimColon
2763	737010	1909.K06.gz43_243437	F	M00057231C:E06	UC2-PrimColon
2764	728121	1909.L06.gz43_243438	F	M00057232B:G02	UC2-PrimColon
2765	472811	1909.B08.gz43_243460	F	M00057220A:C06	UC2-PrimColon
2766	648140	1909.H08.gz43_243466	F	M00057226C:H10	UC2-PrimColon
2767	726251	1909.A09.gz43_243475	F	M00057219A:D05	UC2-PrimColon
2768	642631	1909.B09.gz43_243476	F	M00057220A:D09	UC2-PrimColon
2769	598087	1909.J09.gz43_243484	F	M00057230C:G12	UC2-PrimColon
2770	398061	1909.K09.gz43_243485	F	M00057231C:F12	UC2-PrimColon
2771	463513	1909.M09.gz43_243487	F	M00057233D:G12	UC2-PrimColon
2772	81	1909.F10.gz43_243496	F	M00057225A:C08	UC2-PrimColon



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2773	735050	1909.H10.gz43_243498	F	M00057226D:B03	UC2-PrimColon
2774	735140	1909.K10.gz43_243501	F	M00057231C:G04	UC2-PrimColon
2775	220107	1909.O10.gz43_243505	F	M00057236A:F08	UC2-PrimColon
2776	735817	1909.P10.gz43_243506	F	M00057237B:D10	UC2-PrimColon
2777	735514	1909.D11.gz43_243510	F	M00057222D:C10	UC2-PrimColon
2778	602673	1909.F11.gz43_243512	F	M00057225A:E03	UC2-PrimColon
2779	647815	1909.I11.gz43_243515	F	M00057229B:F11	UC2-PrimColon
2780	402024	1909.A12.gz43_243523	F	M00057219A:E11	UC2-PrimColon
2781	631111	1909.C12.gz43_243525	F	M00057221B:B01	UC2-PrimColon
2782	451888	1909.I12.gz43_243531	F	M00057229B:G11	UC2-PrimColon
2783	456224	1909.J12.gz43_243532	F	M00057230D:C05	UC2-PrimColon
2784	555336	1909.L12.gz43_243534	F	M00057232D:B03	UC2-PrimColon
2785	736988	1909.A13.gz43_243539	F	M00057219A:H11	UC2-PrimColon
2786	613067	1909.B13.gz43_243540	F	M00057220B:A06	UC2-PrimColon
2787	736738	1909.E13.gz43_243543	F	M00057223D:H03	UC2-PrimColon
2788	646552	1909.G13.gz43_243545	F	M00057226A:B04	UC2-PrimColon
2789	725120	1909.O13.gz43_243553	F	M00057236B:D11	UC2-PrimColon
2790	591979	1909.A14.gz43_243555	F	M00057219B:B10	UC2-PrimColon
2791	731467	1909.N14.gz43_243568	F	M00057235B:A07	UC2-PrimColon
2792	474869	1909.A15.gz43_243571	F	M00057219B:C06	UC2-PrimColon
2793	735306	1909.C15.gz43_243573	F	M00057221B:E11	UC2-PrimColon
2794	732736	1909.K15.gz43_243581	F	M00057231D:A05	UC2-PrimColon
2795	724417	1909.L15.gz43_243582	F	M00057233A:C04	UC2-PrimColon
2796	454355	1909.E16.gz43_243591	F	M00057224A:D07	UC2-PrimColon
2797	732899	1909.D17.gz43_243606	F	M00057223A:F06	UC2-PrimColon
2798	733149	1909.J17.gz43_243612	F	M00057231A:D04	UC2-PrimColon
2799	735622	1909.B18.gz43_243620	F	M00057220B:G10	UC2-PrimColon
2800	453132	1909.O19.gz43_243649	F	M00057236C:C07	UC2-PrimColon
2801	724781	1909.P19.gz43_243650	F	M00057237D:C11	UC2-PrimColon
2802	556852	1909.B20.gz43_243652	F	M00057220C:A08	UC2-PrimColon
2803	732159	1909.H20.gz43_243658	F	M00057227B:A05	UC2-PrimColon
2804	734609	1909.D21.gz43_243670	F	M00057223B:A07	UC2-PrimColon
2805	616985	1909.I21.gz43_243675	F	M00057230B:B07	UC2-PrimColon
2806	734151	1909.N21.gz43_243680	F	M00057235C:C08	UC2-PrimColon
2807	553850	1909.C22.gz43_243685	F	M00057221C:E07	UC2-PrimColon
2808	736894	1909.D22.gz43_243686	F	M00057223B:B04	UC2-PrimColon
2809	486051	1909.K22.gz43_243693	F	M00057231D:F10	UC2-PrimColon
2810	734553	1909.N22.gz43_243696	F	M00057235C:F03	UC2-PrimColon
2811	473578	1909.P22.gz43_243698	F	M00057237D:D09	UC2-PrimColon
2812	737010	1909.A23.gz43_243699	F	M00057219D:C02	UC2-PrimColon
2813	735514	1909.B23.gz43_243700	F	M00057220C:F08	UC2-PrimColon
2814	418682	1909.C23.gz43_243701	F	M00057221C:F02	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2815	734562	1909.F23.gz43_243704	F	M00057225C:F09	UC2-PrimColon
2816	664711	1909.M23.gz43_243711	F	M00057234C:D11	UC2-PrimColon
2817	727558	1909.E24.gz43_243719	F	M00057224B:H02	UC2-PrimColon
2818	730028	1910.C01.gz43_243733	F	M00057240A:F03	UC2-PrimColon
2819	611604	1910.E01.gz43_243735	F	M00057242C:G12	UC2-PrimColon
2820	558617	1910.H01.gz43_243738	F	M00057246A:G11	UC2-PrimColon
2821	733144	1910.J01.gz43_243740	F	M00057248B:D11	UC2-PrimColon
2822	647242	1910.M01.gz43_243743	F	M00057252B:E04	UC2-PrimColon
2823	733552	1910.F02.gz43_243752	F	M00057243C:D01	UC2-PrimColon
2824	729428	1910.N02.gz43_243760	F	M00057253C:A06	UC2-PrimColon
2825	641680	1910.A03.gz43_243763	F	M00057238A:D07	UC2-PrimColon
2826	514838	1910.L03.gz43_243774	F	M00057251A:F02	UC2-PrimColon
2827	735403	1910.N03.gz43_243776	F	M00057253C:D11	UC2-PrimColon
2828	732859	1910.I04.gz43_243787	F	M00057247C:C11	UC2-PrimColon
2829	730046	1910.C06.gz43_243813	F	M00057240B:C01	UC2-PrimColon
2830	650067	1910.E06.gz43_243815	F	M00057242D:C07	UC2-PrimColon
2831	734884	1910.F06.gz43_243816	F	M00057243C:H11	UC2-PrimColon
2832	550730	1910.I06.gz43_243819	F	M00057247C:F10	UC2-PrimColon
2833	449042	1910.K06.gz43_243821	F	M00057249D:H09	UC2-PrimColon
2834	647704	1910.B07.gz43_243828	F	M00057239B:F05	UC2-PrimColon
2835	555641	1910.G07.gz43_243833	F	M00057245A:F03	UC2-PrimColon
2836	734226	1910.D08.gz43_243846	F	M00057241D:C04	UC2-PrimColon
2837	551437	1910.A09.gz43_243859	F	M00057238B:F05	UC2-PrimColon
2838	639494	1910.M09.gz43_243871	F	M00057252D:B10	UC2-PrimColon
2839	661194	1910.P09.gz43_243874	F	M00057256B:A05	UC2-PrimColon
2840	734466	1910.B10.gz43_243876	F	M00057239C:E05	UC2-PrimColon
2841	734371	1910.I10.gz43_243883	F	M00057247D:D10	UC2-PrimColon
2842	731392	1910.K11.gz43_243901	F	M00057250B:A03	UC2-PrimColon
2843	484964	1910.G12.gz43_243913	F	M00057245B:E02	UC2-PrimColon
2844	733991	1910.H12.gz43_243914	F	M00057246C:B12	UC2-PrimColon
2845	585976	1910.M12.gz43_243919	F	M00057252D:D04	UC2-PrimColon
2846	729125	1910.B13.gz43_243924	F	M00057239C:G07	UC2-PrimColon
2847	733855	1910.C13.gz43_243925	F	M00057240C:A06	UC2-PrimColon
2848	733945	1910.D14.gz43_243942	F	M00057241D:G01	UC2-PrimColon
2849	555103	1910.J14.gz43_243948	F	M00057249A:C06	UC2-PrimColon
2850	726011	1910.K14.gz43_243949	F	M00057250B:D04	UC2-PrimColon
2851	557353	1910.N14.gz43_243952	F	M00057254A:G07	UC2-PrimColon
2852	457846	1910.E15.gz43_243959	F	M00057243A:H03	UC2-PrimColon
2853	456753	1910.B16.gz43_243972	F	M00057239D:D01	UC2-PrimColon
2854	731238	1910.M17.gz43_243999	F	M00057253A:C05	UC2-PrimColon
2855	558332	1910.O17.gz43_244001	F	M00057255C:A07	UC2-PrimColon
2856	649390	1910.P17.gz43_244002	F	M00057256D:A11	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2857	734808	1910.D19.gz43_244022	F	M00057242A:H11	UC2-PrimColon
2858	731125	1910.L19.gz43_244030	F	M00057252A:D10	UC2-PrimColon
2859	476455	1910.G20.gz43_244041	F	M00057245D:G02	UC2-PrimColon
2860	735754	1910.M20.gz43_244047	F	M00057253A:H10	UC2-PrimColon
2861	735477	1910.D21.gz43_244054	F	M00057242B:F07	UC2-PrimColon
2862	734894	1910.I21.gz43_244059	F	M00057248A:H10	UC2-PrimColon
2863	473588	1910.J21.gz43_244060	F	M00057249C:C07	UC2-PrimColon
2864	735665	1910.K21.gz43_244061	F	M00057250C:G02	UC2-PrimColon
2865	725095	1910.M22.gz43_244079	F	M00057253B:C06	UC2-PrimColon
2866	726081	1910.P23.gz43_244098	F	M00057257A:H10	UC2-PrimColon
2867	455821	1910.F24.gz43_244104	F	M00057244C:E06	UC2-PrimColon
2868	449537	1910.O24.gz43_244113	F	M00057255D:E02	UC2-PrimColon
2869	514697	1910.P24.gz43_244114	F	M00057257B:C11	UC2-PrimColon
2870	586794	1911.I01.gz43_244123	F	M00057269D:F02	UC2-PrimColon
2871	648710	1911.M01.gz43_244127	F	M00057275B:B02	UC2-PrimColon
2872	630348	1911.C02.gz43_244133	F	M00057260A:E05	UC2-PrimColon
2873	733570	1911.F02.gz43_244136	F	M00057266D:B12	UC2-PrimColon
2874	480723	1911.J02.gz43_244140	F	M00057271A:E04	UC2-PrimColon
2875	728756	1911.C03.gz43_244149	F	M00057260A:E11	UC2-PrimColon
2876	735071	1911.E04.gz43_244167	F	M00057265D:B12	UC2-PrimColon
2877	630655	1911.K04.gz43_244173	F	M00057273A:C08	UC2-PrimColon
2878	736014	1911.N04.gz43_244176	F	M00057279A:G02	UC2-PrimColon
2879	42	1911.P04.gz43_244178	F	M00057283A:E06	UC2-PrimColon
2880	482145	1911.D07.gz43_244214	F	M00057262B:C03	UC2-PrimColon
2881	735834	1911.K10.gz43_244269	F	M00057273B:A12	UC2-PrimColon
2882	42	1911.P10.gz43_244274	F	M00057283B:D09	UC2-PrimColon
2883	736014	1911.M11.gz43_244287	F	M00057277B:C09	UC2-PrimColon
2884	450692	1911.O11.gz43_244289	F	M00057281A:D08	UC2-PrimColon
2885	4470	1911.M12.gz43_244303	F	M00057277B:E10	UC2-PrimColon
2886	456065	1911.O12.gz43_244305	F	M00057281A:H02	UC2-PrimColon
2887	482985	1911.K15.gz43_244349	F	M00057273C:F11	UC2-PrimColon
2888	652782	1911.G18.gz43_244393	F	M00057268B:B03	UC2-PrimColon
2889	725784	1911.H18.gz43_244394	F	M00057269C:E01	UC2-PrimColon
2890	729321	1911.K19.gz43_244413	F	M00057273D:A06	UC2-PrimColon
2891	732213	1911.H22.gz43_244458	F	M00057269C:H06	UC2-PrimColon
2892	420504	1911.B23.gz43_244468	F	M00057259D:D11	UC2-PrimColon
2893	735687	1911.F23.gz43_244472	F	M00057267C:G09	UC2-PrimColon
2894	728790	1911.J23.gz43_244476	F	M00057272C:D08	UC2-PrimColon
2895	734131	1911.P23.gz43_244482	F	M00057283D:B12	UC2-PrimColon
2896	725951	1911.D24.gz43_244486	F	M00057265C:F03	UC2-PrimColon
2897	554703	1911.E24.gz43_244487	F	M00057266C:G12	UC2-PrimColon
2898	546642	1911.L24.gz43_244494	F	M00057275B:A12	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIEN T	CLONE ID	LIBRARY
2899	730189	1912.E03.gz43_244535	F	M00057291B:H08	UC2-PrimColon
2900	728768	1912.D08.gz43_244614	F	M00057290B:A02	UC2-PrimColon
2901	420402	1912.H10.gz43_244650	F	M00057299C:A08	UC2-PrimColon
2902	737109	1912.F12.gz43_244680	F	M00057293A:H03	UC2-PrimColon
2903	424672	1912.H15.gz43_244730	F	M00057299D:E04	UC2-PrimColon
2904	558045	1912.D16.gz43_244742	F	M00057290D:G03	UC2-PrimColon
2905	733856	1912.F16.gz43_244744	F	M00057293B:H04	UC2-PrimColon
2906	736449	1912.H17.gz43_244762	F	M00057300A:A08	UC2-PrimColon
2907	148201	1912.H18.gz43_244778	F	M00057300A:B06	UC2-PrimColon
2908	639427	1912.E19.gz43_244791	F	M00057292A:B08	UC2-PrimColon
2909	730187	1912.B21.gz43_244820	F	M00057287A:H06	UC2-PrimColon
2910	732300	1912.D24.gz43_244870	F	M00057291B:D08	UC2-PrimColon
2911	465528	1921.A01.gz43_244883	F	M00057314A:A10	UC2-PrimColon
2912	549552	1921.J01.gz43_244892	F	M00057331D:D08	UC2-PrimColon
2913	470199	1921.E02.gz43_244903	F	M00057320A:G08	UC2-PrimColon
2914	729125	1921.F03.gz43_244920	F	M00057323B:G04	UC2-PrimColon
2915	640341	1921.C04.gz43_244933	F	M00057316D:D02	UC2-PrimColon
2916	77737	1921.F04.gz43_244936	F	M00057323B:H08	UC2-PrimColon
2917	735469	1921.G04.gz43_244937	F	M00057324B:E04	UC2-PrimColon
2918	736733	1921.B06.gz43_244964	F	M00057315D:C06	UC2-PrimColon
2919	732969	1921.I06.gz43_244971	F	M00057328C:F11	UC2-PrimColon
2920	635849	1921.J06.gz43_244972	F	M00057332A:C06	UC2-PrimColon
2921	733146	1921.O06.gz43_244977	F	M00057339D:H09	UC2-PrimColon
2922	737114	1921.A07.gz43_244979	F	M00057314B:H06	UC2-PrimColon
2923	732114	1921.L07.gz43_244990	F	M00057334D:E03	UC2-PrimColon
2924	482788	1921.P08.gz43_245010	F	M00057341D:B09	UC2-PrimColon
2925	554647	1921.M10.gz43_245039	F	M00057337C:G12	UC2-PrimColon
2926	552623	1921.B11.gz43_245044	F	M00057316A:B04	UC2-PrimColon
2927	447705	1921.E11.gz43_245047	F	M00057320D:C02	UC2-PrimColon
2928	731748	1921.G11.gz43_245049	F	M00057324C:G05	UC2-PrimColon
2929	727093	1921.B12.gz43_245060	F	M00057316A:D09	UC2-PrimColon
2930	551607	1921.N12.gz43_245072	F	M00057339A:E08	UC2-PrimColon
2931	727013	1921.G13.gz43_245081	F	M00057324D:E10	UC2-PrimColon
2932	727018	1921.L13.gz43_245086	F	M00057336B:E01	UC2-PrimColon
2933	548635	1921.G14.gz43_245097	F	M00057324D:H03	UC2-PrimColon
2934	726692	1921.J14.gz43_245100	F	M00057332C:F12	UC2-PrimColon
2935	556430	1921.D15.gz43_245110	F	M00057319D:E06	UC2-PrimColon
2936	726692	1921.A16.gz43_245123	F	M00057314D:E09	UC2-PrimColon
2937	473225	1921.F16.gz43_245128	F	M00057323D:E10	UC2-PrimColon
2938	892	1921.K16.gz43_245133	F	M00057334A:C12	UC2-PrimColon
2939	730997	1921.C17.gz43_245141	F	M00057318B:H05	UC2-PrimColon
2940	51616	1921.E18.gz43_245159	F	M00057323A:F01	UC2-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
2941	546642	1921.F18.gz43_245160	F	M00057324A:A09	UC2-PrimColon
2942	643005	1921.G18.gz43_245161	F	M00057325B:D06	UC2-PrimColon
2943	735054	1921.H18.gz43_245162	F	M00057326D:B10	UC2-PrimColon
2944	727231	1921.F19.gz43_245176	F	M00057324A:C08	UC2-PrimColon
2945	733464	1921.J19.gz43_245180	F	M00057333A:D08	UC2-PrimColon
2946	457092	1921.B20.gz43_245188	F	M00057316C:A06	UC2-PrimColon
2947	733723	1921.H21.gz43_245210	F	M00057328A:F02	UC2-PrimColon
2948	557177	1921.I21.gz43_245211	F	M00057331C:E10	UC2-PrimColon
2949	734582	1921.K21.gz43_245213	F	M00057334B:F01	UC2-PrimColon
2950	448431	1921.L21.gz43_245214	F	M00057336D:F07	UC2-PrimColon
2951	697006	1921.H22.gz43_245226	F	M00057328A:F10	UC2-PrimColon
2952	452936	1921.I22.gz43_245227	F	M00057331C:F10	UC2-PrimColon
2953	727132	1921.L22.gz43_245230	F	M00057337A:A06	UC2-PrimColon
2954	513306	1921.F23.gz43_245240	F	M00057324B:A06	UC2-PrimColon
2955	642986	1921.P24.gz43_245266	F	M00057344A:G07	UC2-PrimColon
2956	496752	1924.G03.gz43_245338	F	M00043308A:D09	UC2-ColonMetLiver
2957	498509	1924.H03.gz43_245339	F	M00043310A:F01	UC2-ColonMetLiver
2958	450805	1924.E04.gz43_245352	F	M00043304B:A10	UC2-ColonMetLiver
2959	451456	1924.G04.gz43_245354	F	M00043308A:F06	UC2-ColonMetLiver
2960	494625	1924.M04.gz43_245360	F	M00043317B:B12	UC2-ColonMetLiver
2961	490401	1924.P05.gz43_245379	F	M00043321B:E05	UC2-ColonMetLiver
2962	495105	1924.H08.gz43_245419	F	M00043310C:B04	UC2-ColonMetLiver
2963	496957	1924.E09.gz43_245432	F	M00043304C:E01	UC2-ColonMetLiver
2964	494306	1924.I10.gz43_245452	F	M00043312D:A02	UC2-ColonMetLiver
2965	492544	1924.J11.gz43_245469	F	M00043313D:B04	UC2-ColonMetLiver
2966	451081	1924.M11.gz43_245472	F	M00043317D:C02	UC2-ColonMetLiver
2967	495951	1924.K14.gz43_245518	F	M00043315C:D05	UC2-ColonMetLiver
2968	450349	1924.D15.gz43_245527	F	M00043303B:E11	UC2-ColonMetLiver
2969	498951	1924.L15.gz43_245535	F	M00043316C:F06	UC2-ColonMetLiver
2970	450999	1924.C17.gz43_245558	F	M00043301D:B12	UC2-ColonMetLiver
2971	499693	1924.G17.gz43_245562	F	M00043309A:H06	UC2-ColonMetLiver
2972	498242	1924.F18.gz43_245577	F	M00043307B:F11	UC2-ColonMetLiver
2973	499700	1924.H18.gz43_245579	F	M00043311B:H08	UC2-ColonMetLiver
2974	479604	1924.L19.gz43_245599	F	M00043316D:F04	UC2-ColonMetLiver
2975	562516	1924.N19.gz43_245601	F	M00043319A:D01	UC2-ColonMetLiver
2976	553779	1924.L21.gz43_245631	F	M00043316D:F09	UC2-ColonMetLiver
2977	493746	1924.E24.gz43_245672	F	M00043306B:A09	UC2-ColonMetLiver
2978	494325	1924.H24.gz43_245675	F	M00043312B:A10	UC2-ColonMetLiver
2979	453078	1933.H03.gz43_245723	F	M00043340B:B04	UC2-ColonMetLiver
2980	492887	1933.J04.gz43_245741	F	M00043343D:H03	UC2-ColonMetLiver
2981	450283	1933.F05.gz43_245753	F	M00043335D:E02	UC2-ColonMetLiver
2982	494271	1933.M05.gz43_245760	F	M00043351C:A07	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIE NT	CLONE ID	LIBRARY
2983	448110	1933.O05.gz43_245762	F	M00043354D:C01	UC2-ColonMetLiver
2984	412621	1933.D06.gz43_245767	F	M00043330D:G05	UC2-ColonMetLiver
2985	492629	1933.I06.gz43_245772	F	M00043342C:G02	UC2-ColonMetLiver
2986	491212	1933.E07.gz43_245784	F	M00043334A:F10	UC2-ColonMetLiver
2987	447057	1933.H09.gz43_245819	F	M00043340D:C03	UC2-ColonMetLiver
2988	496909	1933.C10.gz43_245830	F	M00043328A:E12	UC2-ColonMetLiver
2989	491933	1933.D10.gz43_245831	F	M00043331C:G01	UC2-ColonMetLiver
2990	496870	1933.N10.gz43_245841	F	M00043353D:E12	UC2-ColonMetLiver
2991	500040	1933.B12.gz43_245861	F	M00043326A:H06	UC2-ColonMetLiver
2992	553594	1933.O12.gz43_245874	F	M00043354D:H08	UC2-ColonMetLiver
2993	561712	1933.N14.gz43_245905	F	M00043354A:E06	UC2-ColonMetLiver
2994	450027	1933.J15.gz43_245917	F	M00043344C:C11	UC2-ColonMetLiver
2995	450129	1933.K16.gz43_245934	F	M00043348A:D02	UC2-ColonMetLiver
2996	492779	1933.C17.gz43_245942	F	M00043329B:H07	UC2-ColonMetLiver
2997	453068	1933.C18.gz43_245958	F	M00043329C:D12	UC2-ColonMetLiver
2998	450804	1933.F18.gz43_245961	F	M00043336C:A04	UC2-ColonMetLiver
2999	1015	1933.N18.gz43_245969	F	M00043354B:C04	UC2-ColonMetLiver
3000	561834	1933.N20.gz43_246001	F	M00043354B:F12	UC2-ColonMetLiver
3001	552687	1933.O23.gz43_246050	F	M00043355B:B01	UC2-ColonMetLiver
3002	517346	1933.O24.gz43_246066	F	M00043355B:D12	UC2-ColonMetLiver
3003	491448	1935.B05.gz43_246289	F	M00043392C:F02	UC2-ColonMetLiver
3004	553890	1935.K06.gz43_246314	F	M00043501A:D07	UC2-ColonMetLiver
3005	635439	1935.N06.gz43_246317	F	M00043504B:C02	UC2-ColonMetLiver
3006	402070	1935.I07.gz43_246328	F	M00043409C:C07	UC2-ColonMetLiver
3007	448924	1935.H08.gz43_246343	F	M00043406D:C04	UC2-ColonMetLiver
3008	562886	1935.O08.gz43_246350	F	M00043505B:G03	UC2-ColonMetLiver
3009	558055	1935.O09.gz43_246366	F	M00043505B:G07	UC2-ColonMetLiver
3010	451456	1935.H15.gz43_246455	F	M00043407C:H08	UC2-ColonMetLiver
3011	555399	1935.N16.gz43_246477	F	M00043504C:E03	UC2-ColonMetLiver
3012	498629	1935.H17.gz43_246487	F	M00043407D:G06	UC2-ColonMetLiver
3013	490805	1935.E18.gz43_246500	F	M00043401A:E09	UC2-ColonMetLiver
3014	450335	1935.F18.gz43_246501	F	M00043403B:A12	UC2-ColonMetLiver
3015	446964	1935.N22.gz43_246573	F	M00043504D:G08	UC2-ColonMetLiver
3016	522703	1935.P24.gz43_246607	F	M00043506D:F06	UC2-ColonMetLiver
3017	549853	1936.K05.gz43_246682	F	M00054494A:H04	UC2-ColonMetLiver
3018	560275	1936.M05.gz43_246684	F	M00054497B:C10	UC2-ColonMetLiver
3019	481057	1936.P05.gz43_246687	F	M00054501C:E08	UC2-ColonMetLiver
3020	414739	1936.C08.gz43_246722	F	M00043508D:C01	UC2-ColonMetLiver
3021	559720	1936.O08.gz43_246734	F	M00054500A:F04	UC2-ColonMetLiver
3022	554908	1936.M11.gz43_246780	F	M00054497D:A04	UC2-ColonMetLiver
3023	449000	1936.N11.gz43_246781	F	M00054498D:F01	UC2-ColonMetLiver
3024	556768	1936.F13.gz43_246805	F	M00054488A:F01	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3025	449978	1936.I15.gz43_246840	F	M00054492A:D04	UC2-ColonMetLiver
3026	489368	1936.J16.gz43_246857	F	M00054493C:E04	UC2-ColonMetLiver
3027	562823	1936.B18.gz43_246881	F	M00043508B:G11	UC2-ColonMetLiver
3028	559574	1936.E21.gz43_246932	F	M00054487C:A01	UC2-ColonMetLiver
3029	552920	1936.O23.gz43_246974	F	M00054501A:E11	UC2-ColonMetLiver
3030	552086	1971.A01.gz43_246992	F	M00054717A:A03	UC2-ColonMetLiver
3031	553123	1971.D01.gz43_246995	F	M00054720C:A01	UC2-ColonMetLiver
3032	561636	1971.H01.gz43_246999	F	M00054724D:C05	UC2-ColonMetLiver
3033	496772	1971.K01.gz43_247002	F	M00054727D:C06	UC2-ColonMetLiver
3034	549550	1971.A03.gz43_247024	F	M00054717A:C07	UC2-ColonMetLiver
3035	555837	1971.B05.gz43_247057	F	M00054718B:D03	UC2-ColonMetLiver
3036	557714	1971.D05.gz43_247059	F	M00054720C:G10	UC2-ColonMetLiver
3037	446999	1971.E05.gz43_247060	F	M00054721C:D11	UC2-ColonMetLiver
3038	450410	1971.F05.gz43_247061	F	M00054722C:D01	UC2-ColonMetLiver
3039	484043	1971.L05.gz43_247067	F	M00054729B:A08	UC2-ColonMetLiver
3040	452488	1971.N05.gz43_247069	F	M00054731A:D07	UC2-ColonMetLiver
3041	450278	1971.A06.gz43_247072	F	M00054717A:G09	UC2-ColonMetLiver
3042	561313	1971.D06.gz43_247075	F	M00054720C:H01	UC2-ColonMetLiver
3043	557426	1971.L06.gz43_247083	F	M00054729B:B03	UC2-ColonMetLiver
3044	553316	1971.F09.gz43_247125	F	M00054722D:C08	UC2-ColonMetLiver
3045	555818	1971.I09.gz43_247128	F	M00054726A:D02	UC2-ColonMetLiver
3046	551096	1971.H10.gz43_247143	F	M00054725A:A05	UC2-ColonMetLiver
3047	556654	1971.P10.gz43_247151	F	M00054734B:C06	UC2-ColonMetLiver
3048	555491	1971.H11.gz43_247159	F	M00054725A:F09	UC2-ColonMetLiver
3049	559380	1971.M11.gz43_247164	F	M00054730B:F11	UC2-ColonMetLiver
3050	86175	1971.H12.gz43_247175	F	M00054725A:H06	UC2-ColonMetLiver
3051	561830	1971.L12.gz43_247179	F	M00054729C:C08	UC2-ColonMetLiver
3052	421959	1971.G14.gz43_247206	F	M00054724A:G02	UC2-ColonMetLiver
3053	448453	1971.N14.gz43_247213	F	M00054731B:D04	UC2-ColonMetLiver
3054	562263	1971.L15.gz43_247227	F	M00054729C:G07	UC2-ColonMetLiver
3055	553739	1971.I16.gz43_247240	F	M00054726B:F08	UC2-ColonMetLiver
3056	557747	1971.I17.gz43_247256	F	M00054726B:F09	UC2-ColonMetLiver
3057	14573	1971.N17.gz43_247261	F	M00054731B:G02	UC2-ColonMetLiver
3058	553108	1971.P17.gz43_247263	F	M00054734C:A07	UC2-ColonMetLiver
3059	554048	1971.K18.gz43_247274	F	M00054728D:B07	UC2-ColonMetLiver
3060	550315	1971.L18.gz43_247275	F	M00054729D:D05	UC2-ColonMetLiver
3061	449035	1971.I21.gz43_247320	F	M00054726C:D10	UC2-ColonMetLiver
3062	524721	1971.I22.gz43_247336	F	M00054726C:E07	UC2-ColonMetLiver
3063	555571	1971.A24.gz43_247360	F	M00054718A:D11	UC2-ColonMetLiver
3064	553869	1971.N24.gz43_247373	F	M00054731C:H12	UC2-ColonMetLiver
3065	552686	1971.P24.gz43_247375	F	M00054735A:G09	UC2-ColonMetLiver
3066	424723	1972.I03.gz43_247416	F	M00054743A:C07	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3067	499517	1972.P03.gz43_247423	F	M00054750D:H12	UC2-ColonMetLiver
3068	551441	1972.L04.gz43_247435	F	M00054745D:G09	UC2-ColonMetLiver
3069	86145	1972.P04.gz43_247439	F	M00054751A:A05	UC2-ColonMetLiver
3070	556167	1972.C05.gz43_247442	F	M00054737B:H11	UC2-ColonMetLiver
3071	553834	1972.J05.gz43_247449	F	M00054744A:G10	UC2-ColonMetLiver
3072	454186	1972.C06.gz43_247458	F	M00054737C:B01	UC2-ColonMetLiver
3073	466235	1972.E08.gz43_247492	F	M00054739C:B12	UC2-ColonMetLiver
3074	562323	1972.O09.gz43_247518	F	M00054750A:G10	UC2-ColonMetLiver
3075	450142	1972.E12.gz43_247556	F	M00054739C:E05	UC2-ColonMetLiver
3076	557568	1972.O12.gz43_247566	F	M00054750B:F02	UC2-ColonMetLiver
3077	522322	1972.B13.gz43_247569	F	M00054736B:H03	UC2-ColonMetLiver
3078	558679	1972.D13.gz43_247571	F	M00054738D:F01	UC2-ColonMetLiver
3079	452257	1972.I13.gz43_247576	F	M00054743C:E11	UC2-ColonMetLiver
3080	523753	1972.N13.gz43_247581	F	M00054748B:G10	UC2-ColonMetLiver
3081	59202	1972.N14.gz43_247597	F	M00054748B:H09	UC2-ColonMetLiver
3082	553702	1972.P14.gz43_247599	F	M00054751B:F12	UC2-ColonMetLiver
3083	495832	1972.D15.gz43_247603	F	M00054738D:G07	UC2-ColonMetLiver
3084	493122	1972.F15.gz43_247605	F	M00054740C:H08	UC2-ColonMetLiver
3085	493135	1972.G15.gz43_247606	F	M00054741C:D08	UC2-ColonMetLiver
3086	562793	1972.K15.gz43_247610	F	M00054745C:B12	UC2-ColonMetLiver
3087	587854	1972.J16.gz43_247625	F	M00054744C:D02	UC2-ColonMetLiver
3088	553457	1972.O18.gz43_247662	F	M00054750C:D01	UC2-ColonMetLiver
3089	551778	1972.G19.gz43_247670	F	M00054741D:C05	UC2-ColonMetLiver
3090	555077	1972.I19.gz43_247672	F	M00054743D:F04	UC2-ColonMetLiver
3091	557871	1972.K19.gz43_247674	F	M00054745C:H02	UC2-ColonMetLiver
3092	560282	1972.C21.gz43_247698	F	M00054738B:E12	UC2-ColonMetLiver
3093	503452	1972.L22.gz43_247723	F	M00054746D:E05	UC2-ColonMetLiver
3094	555773	1972.D24.gz43_247747	F	M00054739A:F07	UC2-ColonMetLiver
3095	474309	1972.M24.gz43_247756	F	M00054747D:B05	UC2-ColonMetLiver
3096	556019	1981.J01.gz43_247769	F	M00054764D:F01	UC2-ColonMetLiver
3097	472196	1981.I02.gz43_247784	F	M00054763A:A10	UC2-ColonMetLiver
3098	513632	1981.D03.gz43_247795	F	M00054755D:E05	UC2-ColonMetLiver
3099	553158	1981.F03.gz43_247797	F	M00054759A:B08	UC2-ColonMetLiver
3100	498662	1981.L03.gz43_247803	F	M00054766C:B08	UC2-ColonMetLiver
3101	551693	1981.C04.gz43_247810	F	M00054754D:F11	UC2-ColonMetLiver
3102	554021	1981.I04.gz43_247816	F	M00054763C:D07	UC2-ColonMetLiver
3103	550402	1981.O04.gz43_247822	F	M00054769B:D12	UC2-ColonMetLiver
3104	448510	1981.P04.gz43_247823	F	M00054770B:D09	UC2-ColonMetLiver
3105	558900	1981.I05.gz43_247832	F	M00054763C:F10	UC2-ColonMetLiver
3106	554294	1981.K05.gz43_247834	F	M00054765D:D05	UC2-ColonMetLiver
3107	450840	1981.I06.gz43_247848	F	M00054763C:H04	UC2-ColonMetLiver
3108	561487	1981.J07.gz43_247865	F	M00054765B:C03	UC2-ColonMetLiver



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3109	552541	1981.L07.gz43_247867	F	M00054766C:E01	UC2-ColonMetLiver
3110	528775	1981.P07.gz43_247871	F	M00054770C:A04	UC2-ColonMetLiver
3111	553918	1981.B08.gz43_247873	F	M00054753C:H02	UC2-ColonMetLiver
3112	477046	1981.B09.gz43_247889	F	M00054753D:A03	UC2-ColonMetLiver
3113	551289	1981.D09.gz43_247891	F	M00054756A:C12	UC2-ColonMetLiver
3114	263800	1981.G09.gz43_247894	F	M00054760D:B03	UC2-ColonMetLiver
3115	495942	1981.A10.gz43_247904	F	M00054752B:H06	UC2-ColonMetLiver
3116	556183	1981.H10.gz43_247911	F	M00054762A:D09	UC2-ColonMetLiver
3117	448357	1981.N10.gz43_247917	F	M00054768D:A01	UC2-ColonMetLiver
3118	554161	1981.P10.gz43_247919	F	M00054770C:C04	UC2-ColonMetLiver
3119	256179	1981.B11.gz43_247921	F	M00054753D:C12	UC2-ColonMetLiver
3120	555478	1981.P11.gz43_247935	F	M00054770C:D05	UC2-ColonMetLiver
3121	554581	1981.P12.gz43_247951	F	M00054770C:F10	UC2-ColonMetLiver
3122	553922	1981.B13.gz43_247953	F	M00054753D:H10	UC2-ColonMetLiver
3123	554336	1981.E13.gz43_247956	F	M00054758A:F03	UC2-ColonMetLiver
3124	560529	1981.F13.gz43_247957	F	M00054759C:G10	UC2-ColonMetLiver
3125	558900	1981.H14.gz43_247975	F	M00054762B:F02	UC2-ColonMetLiver
3126	447667	1981.M14.gz43_247980	F	M00054767C:D03	UC2-ColonMetLiver
3127	551288	1981.D15.gz43_247987	F	M00054756C:C08	UC2-ColonMetLiver
3128	122169	1981.E15.gz43_247988	F	M00054758B:C10	UC2-ColonMetLiver
3129	551617	1981.H15.gz43_247991	F	M00054762B:F07	UC2-ColonMetLiver
3130	260558	1981.L15.gz43_247995	F	M00054766D:H02	UC2-ColonMetLiver
3131	558609	1981.B16.gz43_248001	F	M00054754B:F04	UC2-ColonMetLiver
3132	554352	1981.E16.gz43_248004	F	M00054758B:D03	UC2-ColonMetLiver
3133	556064	1981.F17.gz43_248021	F	M00054759D:E01	UC2-ColonMetLiver
3134	508126	1981.K17.gz43_248026	F	M00054766A:H10	UC2-ColonMetLiver
3135	549576	1981.M17.gz43_248028	F	M00054767C:H06	UC2-ColonMetLiver
3136	554000	1981.A18.gz43_248032	F	M00054753A:A05	UC2-ColonMetLiver
3137	554049	1981.E18.gz43_248036	F	M00054758B:H03	UC2-ColonMetLiver
3138	558503	1981.H18.gz43_248039	F	M00054762C:A12	UC2-ColonMetLiver
3139	451993	1981.D19.gz43_248051	F	M00054756D:F05	UC2-ColonMetLiver
3140	558949	1981.O19.gz43_248062	F	M00054770A:C06	UC2-ColonMetLiver
3141	553131	1981.J20.gz43_248073	F	M00054765C:F10	UC2-ColonMetLiver
3142	555343	1981.D21.gz43_248083	F	M00054757A:H07	UC2-ColonMetLiver
3143	512432	1981.N21.gz43_248093	F	M00054769A:G10	UC2-ColonMetLiver
3144	550580	1981.B22.gz43_248097	F	M00054754C:H09	UC2-ColonMetLiver
3145	551117	1981.F22.gz43_248101	F	M00054760A:A12	UC2-ColonMetLiver
3146	556475	1981.L22.gz43_248107	F	M00054767A:F08	UC2-ColonMetLiver
3147	552549	1981.M22.gz43_248108	F	M00054767D:G09	UC2-ColonMetLiver
3148	470351	1981.P23.gz43_248127	F	M00054771A:E01	UC2-ColonMetLiver
3149	561535	1981.F24.gz43_248133	F	M00054760A:D10	UC2-ColonMetLiver
3150	1093	1981.G24.gz43_248134	F	M00054761C:E02	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3151	2284	1981.H24.gz43_248135	F	M00054762D:C06	UC2-ColonMetLiver
3152	555958	1982.F01.gz43_248149	F	M00054778A:D01	UC2-ColonMetLiver
3153	492779	1982.A02.gz43_248160	F	M00054771B:F12	UC2-ColonMetLiver
3154	553848	1982.P02.gz43_248175	F	M00054806A:G04	UC2-ColonMetLiver
3155	555686	1982.C03.gz43_248178	F	M00054774B:A07	UC2-ColonMetLiver
3156	555524	1982.H03.gz43_248183	F	M00054780B:B06	UC2-ColonMetLiver
3157	551068	1982.A04.gz43_248192	F	M00054771C:A11	UC2-ColonMetLiver
3158	552183	1982.O04.gz43_248206	F	M00054805A:H04	UC2-ColonMetLiver
3159	551003	1982.F05.gz43_248213	F	M00054778A:F08	UC2-ColonMetLiver
3160	465207	1982.G05.gz43_248214	F	M00054779B:A07	UC2-ColonMetLiver
3161	533991	1982.H05.gz43_248215	F	M00054780B:E03	UC2-ColonMetLiver
3162	553868	1982.K05.gz43_248218	F	M00054786D:F08	UC2-ColonMetLiver
3163	553774	1982.B06.gz43_248225	F	M00054772D:G12	UC2-ColonMetLiver
3164	554072	1982.C06.gz43_248226	F	M00054774B:G08	UC2-ColonMetLiver
3165	554828	1982.E06.gz43_248228	F	M00054776C:G06	UC2-ColonMetLiver
3166	559872	1982.G06.gz43_248230	F	M00054779B:B07	UC2-ColonMetLiver
3167	491570	1982.H06.gz43_248231	F	M00054780B:G10	UC2-ColonMetLiver
3168	275	1982.M06.gz43_248236	F	M00054802C:A07	UC2-ColonMetLiver
3169	552019	1982.C07.gz43_248242	F	M00054774C:A03	UC2-ColonMetLiver
3170	556183	1982.G07.gz43_248246	F	M00054779B:B11	UC2-ColonMetLiver
3171	552535	1982.J07.gz43_248249	F	M00054784C:D11	UC2-ColonMetLiver
3172	551718	1982.A08.gz43_248256	F	M00054771D:G01	UC2-ColonMetLiver
3173	551169	1982.B08.gz43_248257	F	M00054773A:E09	UC2-ColonMetLiver
3174	551080	1982.F08.gz43_248261	F	M00054778B:A02	UC2-ColonMetLiver
3175	517146	1982.P08.gz43_248271	F	M00054806C:C12	UC2-ColonMetLiver
3176	402147	1982.B09.gz43_248273	F	M00054773A:H05	UC2-ColonMetLiver
3177	557269	1982.D09.gz43_248275	F	M00054776A:D10	UC2-ColonMetLiver
3178	539353	1982.N09.gz43_248285	F	M00054804A:H04	UC2-ColonMetLiver
3179	560520	1982.D10.gz43_248291	F	M00054776A:F01	UC2-ColonMetLiver
3180	575924	1982.I10.gz43_248296	F	M00054782D:D12	UC2-ColonMetLiver
3181	554582	1982.J10.gz43_248297	F	M00054784D:B01	UC2-ColonMetLiver
3182	555696	1982.M10.gz43_248300	F	M00054802D:A09	UC2-ColonMetLiver
3183	556856	1982.O10.gz43_248302	F	M00054805B:E06	UC2-ColonMetLiver
3184	447926	1982.D11.gz43_248307	F	M00054776A:F07	UC2-ColonMetLiver
3185	553743	1982.E11.gz43_248308	F	M00054776D:G09	UC2-ColonMetLiver
3186	553979	1982.N11.gz43_248317	F	M00054804B:E07	UC2-ColonMetLiver
3187	497912	1982.O11.gz43_248318	F	M00054805B:E11	UC2-ColonMetLiver
3188	412621	1982.D12.gz43_248323	F	M00054776A:G01	UC2-ColonMetLiver
3189	497477	1982.M12.gz43_248332	F	M00054802D:C02	UC2-ColonMetLiver
3190	552188	1982.J13.gz43_248345	F	M00054785B:B07	UC2-ColonMetLiver
3191	456052	1982.M13.gz43_248348	F	M00054802D:C03	UC2-ColonMetLiver
3192	143346	1982.H14.gz43_248359	F	M00054780C:G11	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3193	553237	1982.N14.gz43_248365	F	M00054804C:F04	UC2-ColonMetLiver
3194	556856	1982.O14.gz43_248366	F	M00054805B:G02	UC2-ColonMetLiver
3195	586600	1982.A15.gz43_248368	F	M00054772B:B01	UC2-ColonMetLiver
3196	562263	1982.J15.gz43_248377	F	M00054785C:C02	UC2-ColonMetLiver
3197	555462	1982.C16.gz43_248386	F	M00054775A:D07	UC2-ColonMetLiver
3198	394168	1982.O16.gz43_248398	F	M00054805B:G10	UC2-ColonMetLiver
3199	472672	1982.A17.gz43_248400	F	M00054772B:D04	UC2-ColonMetLiver
3200	595181	1982.C17.gz43_248402	F	M00054775A:G03	UC2-ColonMetLiver
3201	554627	1982.G17.gz43_248406	F	M00054779D:F07	UC2-ColonMetLiver
3202	552325	1982.I17.gz43_248408	F	M00054783C:C03	UC2-ColonMetLiver
3203	462511	1982.J17.gz43_248409	F	M00054785C:G11	UC2-ColonMetLiver
3204	552813	1982.K17.gz43_248410	F	M00054788C:G04	UC2-ColonMetLiver
3205	175758	1982.M17.gz43_248412	F	M00054803A:D08	UC2-ColonMetLiver
3206	493085	1982.A18.gz43_248416	F	M00054772B:F03	UC2-ColonMetLiver
3207	557834	1982.B18.gz43_248417	F	M00054773C:F09	UC2-ColonMetLiver
3208	548998	1982.F18.gz43_248421	F	M00054778C:F09	UC2-ColonMetLiver
3209	551425	1982.G18.gz43_248422	F	M00054779D:F08	UC2-ColonMetLiver
3210	490414	1982.K18.gz43_248426	F	M00054789A:A02	UC2-ColonMetLiver
3211	551553	1982.M18.gz43_248428	F	M00054803A:E10	UC2-ColonMetLiver
3212	555571	1982.N18.gz43_248429	F	M00054804D:D07	UC2-ColonMetLiver
3213	448629	1982.B19.gz43_248433	F	M00054773C:F10	UC2-ColonMetLiver
3214	552005	1982.J19.gz43_248441	F	M00054785D:A07	UC2-ColonMetLiver
3215	554116	1982.M20.gz43_248460	F	M00054803B:B12	UC2-ColonMetLiver
3216	505792	1982.H21.gz43_248471	F	M00054781A:H09	UC2-ColonMetLiver
3217	561422	1982.J21.gz43_248473	F	M00054786A:G11	UC2-ColonMetLiver
3218	551755	1982.M24.gz43_248524	F	M00054803C:G01	UC2-ColonMetLiver
3219	550063	1945.J03.gz43_248963	F	M00054513A:B08	UC2-ColonMetLiver
3220	388055	1945.D04.gz43_248973	F	M00054506B:A07	UC2-ColonMetLiver
3221	572807	1945.C05.gz43_248988	F	M00054505A:G12	UC2-ColonMetLiver
3222	455814	1945.J05.gz43_248995	F	M00054513A:F09	UC2-ColonMetLiver
3223	452471	1945.H07.gz43_249025	F	M00054510C:G07	UC2-ColonMetLiver
3224	551518	1945.J07.gz43_249027	F	M00054513B:E11	UC2-ColonMetLiver
3225	555660	1945.J09.gz43_249059	F	M00054513C:A01	UC2-ColonMetLiver
3226	524721	1945.B11.gz43_249083	F	M00054504B:A04	UC2-ColonMetLiver
3227	550986	1945.D11.gz43_249085	F	M00054506B:H01	UC2-ColonMetLiver
3228	499696	1945.G11.gz43_249088	F	M00054509C:G01	UC2-ColonMetLiver
3229	554611	1945.N11.gz43_249095	F	M00054519A:C04	UC2-ColonMetLiver
3230	557681	1945.F12.gz43_249103	F	M00054508B:E08	UC2-ColonMetLiver
3231	550678	1945.J13.gz43_249123	F	M00054513D:F04	UC2-ColonMetLiver
3232	554246	1945.K13.gz43_249124	F	M00054515B:E11	UC2-ColonMetLiver
3233	550129	1945.F15.gz43_249151	F	M00054508C:B04	UC2-ColonMetLiver
3234	555771	1945.F17.gz43_249183	F	M00054508C:C08	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3235	572992	1945.O18.gz43_249208	F	M00054521D:H01	UC2-ColonMetLiver
3236	461313	1945.J21.gz43_249251	F	M00054514C:B01	UC2-ColonMetLiver
3237	554456	1945.L21.gz43_249253	F	M00054516D:F09	UC2-ColonMetLiver
3238	547866	1945.F23.gz43_249279	F	M00054509A:C01	UC2-ColonMetLiver
3239	458974	1945.P23.gz43_249289	F	M00054523C:A11	UC2-ColonMetLiver
3240	554839	1945.C24.gz43_249292	F	M00054506A:D05	UC2-ColonMetLiver
3241	487658	1945.I24.gz43_249298	F	M00054512D:H08	UC2-ColonMetLiver
3242	556940	1946.H01.gz43_249313	F	M00054533C:B04	UC2-ColonMetLiver
3243	493575	1946.N03.gz43_249351	F	M00054541C:C10	UC2-ColonMetLiver
3244	466020	1946.H05.gz43_249377	F	M00054533C:E07	UC2-ColonMetLiver
3245	552006	1946.C06.gz43_249388	F	M00054527B:A07	UC2-ColonMetLiver
3246	551157	1946.E06.gz43_249390	F	M00054529C:D11	UC2-ColonMetLiver
3247	559574	1946.G06.gz43_249392	F	M00054532D:A01	UC2-ColonMetLiver
3248	556216	1946.I06.gz43_249394	F	M00054534D:D02	UC2-ColonMetLiver
3249	559676	1946.B07.gz43_249403	F	M00054525D:H05	UC2-ColonMetLiver
3250	550018	1946.J07.gz43_249411	F	M00054536B:A03	UC2-ColonMetLiver
3251	526984	1946.G08.gz43_249424	F	M00054532D:E07	UC2-ColonMetLiver
3252	481594	1946.N09.gz43_249447	F	M00054541C:F11	UC2-ColonMetLiver
3253	550618	1946.P09.gz43_249449	F	M00054544B:E03	UC2-ColonMetLiver
3254	454336	1946.A10.gz43_249450	F	M00054523D:G09	UC2-ColonMetLiver
3255	550370	1946.J10.gz43_249459	F	M00054536B:D02	UC2-ColonMetLiver
3256	464154	1946.M10.gz43_249462	F	M00054540A:H07	UC2-ColonMetLiver
3257	550475	1946.B11.gz43_249467	F	M00054526A:E04	UC2-ColonMetLiver
3258	584071	1946.F11.gz43_249471	F	M00054531D:F05	UC2-ColonMetLiver
3259	550730	1946.J11.gz43_249475	F	M00054536B:F08	UC2-ColonMetLiver
3260	552638	1946.O12.gz43_249496	F	M00054543B:E06	UC2-ColonMetLiver
3261	560014	1946.L13.gz43_249509	F	M00054538D:H11	UC2-ColonMetLiver
3262	553338	1946.I14.gz43_249522	F	M00054535A:G03	UC2-ColonMetLiver
3263	556809	1946.B15.gz43_249531	F	M00054526B:C09	UC2-ColonMetLiver
3264	498433	1946.H15.gz43_249537	F	M00054534A:B06	UC2-ColonMetLiver
3265	455821	1946.K16.gz43_249556	F	M00054538A:E10	UC2-ColonMetLiver
3266	82864	1946.J17.gz43_249571	F	M00054536C:D12	UC2-ColonMetLiver
3267	560519	1946.L17.gz43_249573	F	M00054539B:D06	UC2-ColonMetLiver
3268	409262	1946.N17.gz43_249575	F	M00054542B:B01	UC2-ColonMetLiver
3269	560717	1946.P17.gz43_249577	F	M00054544C:F04	UC2-ColonMetLiver
3270	550172	1946.K18.gz43_249588	F	M00054538B:B05	UC2-ColonMetLiver
3271	552753	1946.O18.gz43_249592	F	M00054543C:F01	UC2-ColonMetLiver
3272	549734	1946.L19.gz43_249605	F	M00054539B:G03	UC2-ColonMetLiver
3273	550714	1946.G20.gz43_249616	F	M00054533B:F04	UC2-ColonMetLiver
3274	585380	1946.D21.gz43_249629	F	M00054529A:H01	UC2-ColonMetLiver
3275	550204	1946.F21.gz43_249631	F	M00054532B:C05	UC2-ColonMetLiver
3276	560205	1946.I22.gz43_249650	F	M00054535B:H08	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3277	312036	1946.E23.gz43_249662	F	M00054530D:C10	UC2-ColonMetLiver
3278	553002	1946.E24.gz43_249678	F	M00054530D:H07	UC2-ColonMetLiver
3279	394567	1948.O01.gz43_249704	F	M00054583D:E04	UC2-ColonMetLiver
3280	468613	1948.C02.gz43_249708	F	M00054569D:E01	UC2-ColonMetLiver
3281	378610	1948.I02.gz43_249714	F	M00054576D:C07	UC2-ColonMetLiver
3282	559752	1948.M02.gz43_249718	F	M00054581B:A01	UC2-ColonMetLiver
3283	550804	1948.K03.gz43_249732	F	M00054579A:G10	UC2-ColonMetLiver
3284	549956	1948.O03.gz43_249736	F	M00054584A:A07	UC2-ColonMetLiver
3285	556065	1948.A04.gz43_249738	F	M00054567C:B03	UC2-ColonMetLiver
3286	550397	1948.M04.gz43_249750	F	M00054581B:D03	UC2-ColonMetLiver
3287	550874	1948.M05.gz43_249766	F	M00054581B:G10	UC2-ColonMetLiver
3288	533812	1948.O05.gz43_249768	F	M00054584A:B03	UC2-ColonMetLiver
3289	549597	1948.C08.gz43_249804	F	M00054570A:F02	UC2-ColonMetLiver
3290	553749	1948.K08.gz43_249812	F	M00054579B:D10	UC2-ColonMetLiver
3291	446814	1948.G10.gz43_249840	F	M00054574D:F11	UC2-ColonMetLiver
3292	555000	1948.M10.gz43_249846	F	M00054581D:C12	UC2-ColonMetLiver
3293	554887	1948.O10.gz43_249848	F	M00054584B:A03	UC2-ColonMetLiver
3294	561876	1948.E11.gz43_249854	F	M00054572C:E09	UC2-ColonMetLiver
3295	556488	1948.M11.gz43_249862	F	M00054581D:D01	UC2-ColonMetLiver
3296	560080	1948.G12.gz43_249872	F	M00054575A:B06	UC2-ColonMetLiver
3297	556336	1948.M12.gz43_249878	F	M00054581D:E04	UC2-ColonMetLiver
3298	558729	1948.I13.gz43_249890	F	M00054577B:A09	UC2-ColonMetLiver
3299	549716	1948.A14.gz43_249898	F	M00054568A:G02	UC2-ColonMetLiver
3300	568467	1948.M14.gz43_249910	F	M00054582A:A05	UC2-ColonMetLiver
3301	550694	1948.N14.gz43_249911	F	M00054583A:F05	UC2-ColonMetLiver
3302	549994	1948.M15.gz43_249926	F	M00054582A:A07	UC2-ColonMetLiver
3303	549858	1948.A16.gz43_249930	F	M00054568A:H03	UC2-ColonMetLiver
3304	554793	1948.A17.gz43_249946	F	M00054568B:A07	UC2-ColonMetLiver
3305	466020	1948.O17.gz43_249960	F	M00054584D:C01	UC2-ColonMetLiver
3306	509202	1948.I19.gz43_249986	F	M00054577B:F01	UC2-ColonMetLiver
3307	450963	1948.A21.gz43_250010	F	M00054568C:D06	UC2-ColonMetLiver
3308	451049	1948.C21.gz43_250012	F	M00054571A:B10	UC2-ColonMetLiver
3309	528404	1948.K21.gz43_250020	F	M00054580A:B11	UC2-ColonMetLiver
3310	160320	1948.O21.gz43_250024	F	M00054585A:E07	UC2-ColonMetLiver
3311	492139	1948.K22.gz43_250036	F	M00054580A:C10	UC2-ColonMetLiver
3312	557656	1948.A23.gz43_250042	F	M00054568C:G12	UC2-ColonMetLiver
3313	570248	1948.K24.gz43_250068	F	M00054580A:D04	UC2-ColonMetLiver
3314	561836	1957.G01.gz43_250080	F	M00054594A:D04	UC2-ColonMetLiver
3315	558332	1957.J01.gz43_250083	F	M00054597A:C11	UC2-ColonMetLiver
3316	558981	1957.J02.gz43_250099	F	M00054597A:D08	UC2-ColonMetLiver
3317	535129	1957.B03.gz43_250107	F	M00054587C:G02	UC2-ColonMetLiver
3318	549781	1957.J03.gz43_250115	F	M00054597A:G08	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIE NT	CLONE ID	LIBRARY
3319	555920	1957.C04.gz43_250124	F	M00054589A:D09	UC2-ColonMetLiver
3320	550044	1957.E04.gz43_250126	F	M00054591C:A01	UC2-ColonMetLiver
3321	447356	1957.I04.gz43_250130	F	M00054596B:C01	UC2-ColonMetLiver
3322	560751	1957.A05.gz43_250138	F	M00054586C:H02	UC2-ColonMetLiver
3323	550322	1957.B05.gz43_250139	F	M00054587D:D04	UC2-ColonMetLiver
3324	416884	1957.N05.gz43_250151	F	M00054602A:E06	UC2-ColonMetLiver
3325	559857	1957.A06.gz43_250154	F	M00054586D:A03	UC2-ColonMetLiver
3326	446164	1957.C06.gz43_250156	F	M00054589B:A07	UC2-ColonMetLiver
3327	550088	1957.D06.gz43_250157	F	M00054590B:B11	UC2-ColonMetLiver
3328	554764	1957.E06.gz43_250158	F	M00054591C:H09	UC2-ColonMetLiver
3329	552907	1957.O07.gz43_250184	F	M00054603A:G06	UC2-ColonMetLiver
3330	498827	1957.D08.gz43_250189	F	M00054590C:A03	UC2-ColonMetLiver
3331	498777	1957.G08.gz43_250192	F	M00054594C:E06	UC2-ColonMetLiver
3332	559883	1957.L08.gz43_250197	F	M00054599D:B07	UC2-ColonMetLiver
3333	554869	1957.M08.gz43_250198	F	M00054600D:H07	UC2-ColonMetLiver
3334	559419	1957.A09.gz43_250202	F	M00054586D:G01	UC2-ColonMetLiver
3335	473859	1957.F09.gz43_250207	F	M00054593B:B03	UC2-ColonMetLiver
3336	555949	1957.M09.gz43_250214	F	M00054601A:E08	UC2-ColonMetLiver
3337	552913	1957.O09.gz43_250216	F	M00054603A:G12	UC2-ColonMetLiver
3338	551463	1957.C10.gz43_250220	F	M00054589B:F05	UC2-ColonMetLiver
3339	550855	1957.B11.gz43_250235	F	M00054588A:G08	UC2-ColonMetLiver
3340	526733	1957.O11.gz43_250248	F	M00054603B:B04	UC2-ColonMetLiver
3341	557970	1957.F12.gz43_250255	F	M00054593B:E03	UC2-ColonMetLiver
3342	549665	1957.H12.gz43_250257	F	M00054595C:G06	UC2-ColonMetLiver
3343	446503	1957.M12.gz43_250262	F	M00054601B:D08	UC2-ColonMetLiver
3344	549599	1957.P12.gz43_250265	F	M00054604C:F03	UC2-ColonMetLiver
3345	558413	1957.A13.gz43_250266	F	M00054587A:A08	UC2-ColonMetLiver
3346	553331	1957.B13.gz43_250267	F	M00054588B:B12	UC2-ColonMetLiver
3347	549609	1957.I14.gz43_250290	F	M00054596C:F09	UC2-ColonMetLiver
3348	455298	1957.I15.gz43_250306	F	M00054596C:F10	UC2-ColonMetLiver
3349	563514	1957.P15.gz43_250313	F	M00054604D:A04	UC2-ColonMetLiver
3350	471181	1957.A16.gz43_250314	F	M00054587A:F06	UC2-ColonMetLiver
3351	487176	1957.N16.gz43_250327	F	M00054602C:C12	UC2-ColonMetLiver
3352	561130	1957.I17.gz43_250338	F	M00054596C:G09	UC2-ColonMetLiver
3353	461718	1957.J17.gz43_250339	F	M00054597D:E12	UC2-ColonMetLiver
3354	559554	1957.L17.gz43_250341	F	M00054600A:G12	UC2-ColonMetLiver
3355	452506	1957.A18.gz43_250346	F	M00054587A:F09	UC2-ColonMetLiver
3356	551975	1957.D18.gz43_250349	F	M00054590D:C12	UC2-ColonMetLiver
3357	485029	1957.H18.gz43_250353	F	M00054595D:A10	UC2-ColonMetLiver
3358	549816	1957.L18.gz43_250357	F	M00054600A:H03	UC2-ColonMetLiver
3359	408130	1957.O18.gz43_250360	F	M00054603C:G09	UC2-ColonMetLiver
3360	558927	1957.P18.gz43_250361	F	M00054605A:A03	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3361	550217	1957.B19.gz43_250363	F	M00054588C:F04	UC2-ColonMetLiver
3362	556376	1957.C20.gz43_250380	F	M00054589D:C06	UC2-ColonMetLiver
3363	549964	1957.E20.gz43_250382	F	M00054592C:A05	UC2-ColonMetLiver
3364	549228	1957.K20.gz43_250388	F	M00054599B:C06	UC2-ColonMetLiver
3365	459581	1957.L20.gz43_250389	F	M00054600C:B10	UC2-ColonMetLiver
3366	562722	1957.N20.gz43_250391	F	M00054602D:A06	UC2-ColonMetLiver
3367	552121	1957.O20.gz43_250392	F	M00054603D:B02	UC2-ColonMetLiver
3368	447311	1957.C23.gz43_250428	F	M00054590A:A01	UC2-ColonMetLiver
3369	467035	1957.I23.gz43_250434	F	M00054597A:A07	UC2-ColonMetLiver
3370	549611	1957.K23.gz43_250436	F	M00054599B:F09	UC2-ColonMetLiver
3371	549731	1957.H24.gz43_250449	F	M00054596A:G11	UC2-ColonMetLiver
3372	380127	1957.P24.gz43_250457	F	M00054605B:F10	UC2-ColonMetLiver
3373	405042	1958.H01.gz43_250465	F	M00054614B:E01	UC2-ColonMetLiver
3374	552418	1958.J01.gz43_250467	F	M00054616D:C10	UC2-ColonMetLiver
3375	558642	1958.N01.gz43_250471	F	M00054621D:C06	UC2-ColonMetLiver
3376	549649	1958.A02.gz43_250474	F	M00054605B:G01	UC2-ColonMetLiver
3377	557190	1958.B02.gz43_250475	F	M00054606D:B05	UC2-ColonMetLiver
3378	549320	1958.N02.gz43_250487	F	M00054621D:D11	UC2-ColonMetLiver
3379	549739	1958.J03.gz43_250499	F	M00054616D:G09	UC2-ColonMetLiver
3380	561116	1958.M03.gz43_250502	F	M00054620D:D06	UC2-ColonMetLiver
3381	473111	1958.M04.gz43_250518	F	M00054620D:D11	UC2-ColonMetLiver
3382	558103	1958.P04.gz43_250521	F	M00054625A:D07	UC2-ColonMetLiver
3383	548864	1958.A05.gz43_250522	F	M00054605C:A04	UC2-ColonMetLiver
3384	560862	1958.B05.gz43_250523	F	M00054607A:B06	UC2-ColonMetLiver
3385	557199	1958.P05.gz43_250537	F	M00054625A:E05	UC2-ColonMetLiver
3386	188753	1958.A06.gz43_250538	F	M00054605C:D03	UC2-ColonMetLiver
3387	550177	1958.G06.gz43_250544	F	M00054613A:D07	UC2-ColonMetLiver
3388	556896	1958.M06.gz43_250550	F	M00054620D:F11	UC2-ColonMetLiver
3389	552823	1958.B07.gz43_250555	F	M00054607A:G02	UC2-ColonMetLiver
3390	395411	1958.M07.gz43_250566	F	M00054620D:G11	UC2-ColonMetLiver
3391	10397	1958.N07.gz43_250567	F	M00054622A:D06	UC2-ColonMetLiver
3392	551250	1958.P07.gz43_250569	F	M00054625B:B02	UC2-ColonMetLiver
3393	561892	1958.C08.gz43_250572	F	M00054609A:F01	UC2-ColonMetLiver
3394	549347	1958.F08.gz43_250575	F	M00054612A:D12	UC2-ColonMetLiver
3395	561068	1958.N08.gz43_250583	F	M00054622A:H01	UC2-ColonMetLiver
3396	549912	1958.C09.gz43_250588	F	M00054609A:H04	UC2-ColonMetLiver
3397	549114	1958.F10.gz43_250607	F	M00054612B:B11	UC2-ColonMetLiver
3398	548965	1958.J10.gz43_250611	F	M00054617B:A09	UC2-ColonMetLiver
3399	491644	1958.N10.gz43_250615	F	M00054622B:F05	UC2-ColonMetLiver
3400	550018	1958.G11.gz43_250624	F	M00054613B:H04	UC2-ColonMetLiver
3401	556530	1958.C12.gz43_250636	F	M00054609B:E01	UC2-ColonMetLiver
3402	562749	1958.L12.gz43_250645	F	M00054619D:C10	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3403	556308	1958.N12.gz43_250647	F	M00054622B:H09	UC2-ColonMetLiver
3404	551305	1958.O12.gz43_250648	F	M00054623D:C12	UC2-ColonMetLiver
3405	507349	1958.C13.gz43_250652	F	M00054609B:H11	UC2-ColonMetLiver
3406	549626	1958.E13.gz43_250654	F	M00054611B:F12	UC2-ColonMetLiver
3407	549388	1958.J13.gz43_250659	F	M00054617B:D06	UC2-ColonMetLiver
3408	478511	1958.E14.gz43_250670	F	M00054611B:G09	UC2-ColonMetLiver
3409	555371	1958.K14.gz43_250676	F	M00054618C:H02	UC2-ColonMetLiver
3410	553758	1958.I15.gz43_250690	F	M00054616A:H01	UC2-ColonMetLiver
3411	553204	1958.L15.gz43_250693	F	M00054620A:C09	UC2-ColonMetLiver
3412	497477	1958.H16.gz43_250705	F	M00054615B:E03	UC2-ColonMetLiver
3413	481360	1958.I16.gz43_250706	F	M00054616A:H03	UC2-ColonMetLiver
3414	552437	1958.K16.gz43_250708	F	M00054618D:D04	UC2-ColonMetLiver
3415	550164	1958.O16.gz43_250712	F	M00054624A:B11	UC2-ColonMetLiver
3416	555660	1958.E18.gz43_250734	F	M00054611C:E01	UC2-ColonMetLiver
3417	562932	1958.N18.gz43_250743	F	M00054622D:C02	UC2-ColonMetLiver
3418	490393	1958.B19.gz43_250747	F	M00054608B:D08	UC2-ColonMetLiver
3419	490890	1958.K19.gz43_250756	F	M00054618D:E06	UC2-ColonMetLiver
3420	451009	1958.K20.gz43_250772	F	M00054618D:E11	UC2-ColonMetLiver
3421	552194	1958.L20.gz43_250773	F	M00054620B:B10	UC2-ColonMetLiver
3422	451025	1958.M20.gz43_250774	F	M00054621C:G03	UC2-ColonMetLiver
3423	551463	1958.N20.gz43_250775	F	M00054622D:D10	UC2-ColonMetLiver
3424	553028	1958.G21.gz43_250784	F	M00054613D:H09	UC2-ColonMetLiver
3425	485504	1958.N21.gz43_250791	F	M00054622D:F05	UC2-ColonMetLiver
3426	562712	1958.P21.gz43_250793	F	M00054625D:F06	UC2-ColonMetLiver
3427	490152	1958.C22.gz43_250796	F	M00054609D:E12	UC2-ColonMetLiver
3428	552364	1958.F22.gz43_250799	F	M00054612D:B12	UC2-ColonMetLiver
3429	448276	1958.L22.gz43_250805	F	M00054620C:C08	UC2-ColonMetLiver
3430	556835	1958.N22.gz43_250807	F	M00054622D:G11	UC2-ColonMetLiver
3431	461734	1958.P22.gz43_250809	F	M00054625D:H07	UC2-ColonMetLiver
3432	557947	1958.H23.gz43_250817	F	M00054615C:D09	UC2-ColonMetLiver
3433	560491	1958.L23.gz43_250821	F	M00054620C:C12	UC2-ColonMetLiver
3434	554810	1958.O23.gz43_250824	F	M00054624D:B06	UC2-ColonMetLiver
3435	549829	1958.C24.gz43_250828	F	M00054609D:H06	UC2-ColonMetLiver
3436	518049	1958.M24.gz43_250838	F	M00054621D:A10	UC2-ColonMetLiver
3437	484669	1777.O01.gz43_251861	F	M00042831D:G06	UC2-PrimColon
3438	537506	1777.C03.gz43_251881	F	M00042811C:B06	UC2-PrimColon
3439	545162	1777.F03.gz43_251884	F	M00042816B:C08	UC2-PrimColon
3440	456793	1777.C11.gz43_252009	F	M00042812B:C01	UC2-PrimColon
3441	448340	1777.E11.gz43_252011	F	M00042815C:C02	UC2-PrimColon
3442	448793	1777.E13.gz43_252043	F	M00042815C:F10	UC2-PrimColon
3443	449718	1777.H14.gz43_252062	F	M00042819C:H02	UC2-PrimColon
3444	735534	1777.E17.gz43_252107	F	M00042816A:C09	UC2-PrimColon



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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3445	449258	1777.K17.gz43_252113	F	M00042825A:B05	UC2-PrimColon
3446	485020	1777.O18.gz43_252133	F	M00042833C:G05	UC2-PrimColon
3447	649735	1777.A23.gz43_252199	F	M00042809D:C12	UC2-PrimColon
3448	498504	1923.B01.gz43_252616	F	M00042352D:F11	UC2-ColonMetLiver
3449	424723	1923.C01.gz43_252617	F	M00042355A:H09	UC2-ColonMetLiver
3450	451124	1923.E01.gz43_252619	F	M00042444C:E02	UC2-ColonMetLiver
3451	553312	1923.O01.gz43_252629	F	M00042516D:H08	UC2-ColonMetLiver
3452	257547	1923.D02.gz43_252634	F	M00042442B:A07	UC2-ColonMetLiver
3453	492292	1923.J02.gz43_252640	F	M00042455B:G09	UC2-ColonMetLiver
3454	638444	1923.O02.gz43_252645	F	M00042516D:H09	UC2-ColonMetLiver
3455	451009	1923.C03.gz43_252649	F	M00042355B:B07	UC2-ColonMetLiver
3456	451518	1923.I03.gz43_252655	F	M00042453C:D12	UC2-ColonMetLiver
3457	450255	1923.J03.gz43_252656	F	M00042455C:D11	UC2-ColonMetLiver
3458	556804	1923.M03.gz43_252659	F	M00042460B:D10	UC2-ColonMetLiver
3459	497400	1923.C04.gz43_252665	F	M00042355B:E10	UC2-ColonMetLiver
3460	451618	1923.H04.gz43_252670	F	M00042451D:H10	UC2-ColonMetLiver
3461	490890	1923.J04.gz43_252672	F	M00042455C:E04	UC2-ColonMetLiver
3462	492982	1923.P04.gz43_252678	F	M00042519D:H07	UC2-ColonMetLiver
3463	498777	1923.A05.gz43_252679	F	M00042351C:G01	UC2-ColonMetLiver
3464	493575	1923.B05.gz43_252680	F	M00042353B:A11	UC2-ColonMetLiver
3465	556916	1923.L05.gz43_252690	F	M00042459B:F03	UC2-ColonMetLiver
3466	551755	1923.N05.gz43_252692	F	M00042460D:H06	UC2-ColonMetLiver
3467	495074	1923.O05.gz43_252693	F	M00042517C:B04	UC2-ColonMetLiver
3468	487745	1923.E06.gz43_252699	F	M00042445A:B04	UC2-ColonMetLiver
3469	448663	1923.F06.gz43_252700	F	M00042447C:H10	UC2-ColonMetLiver
3470	468729	1923.L06.gz43_252706	F	M00042459B:F12	UC2-ColonMetLiver
3471	451470	1923.C07.gz43_252713	F	M00042355C:G09	UC2-ColonMetLiver
3472	489426	1923.K07.gz43_252721	F	M00042457D:D02	UC2-ColonMetLiver
3473	450302	1923.F08.gz43_252732	F	M00042447D:E04	UC2-ColonMetLiver
3474	559575	1923.M08.gz43_252739	F	M00042460B:G12	UC2-ColonMetLiver
3475	496446	1923.A09.gz43_252743	F	M00042351D:D02	UC2-ColonMetLiver
3476	492110	1923.F09.gz43_252748	F	M00042447D:G10	UC2-ColonMetLiver
3477	495941	1923.G09.gz43_252749	F	M00042450A:D02	UC2-ColonMetLiver
3478	446621	1923.J09.gz43_252752	F	M00042455D:H08	UC2-ColonMetLiver
3479	562115	1923.N09.gz43_252756	F	M00042516A:A10	UC2-ColonMetLiver
3480	494300	1923.O09.gz43_252757	F	M00042517D:A12	UC2-ColonMetLiver
3481	451429	1923.A10.gz43_252759	F	M00042351D:F08	UC2-ColonMetLiver
3482	486912	1923.H10.gz43_252766	F	M00042452C:A09	UC2-ColonMetLiver
3483	456492	1923.J10.gz43_252768	F	M00042456A:C08	UC2-ColonMetLiver
3484	562060	1923.N10.gz43_252772	F	M00042516A:C08	UC2-ColonMetLiver
3485	4244	1923.P10.gz43_252774	F	M00042520A:F09	UC2-ColonMetLiver
3486	451429	1923.A11.gz43_252775	F	M00042351D:H05	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3487	449974	1923.H11.gz43_252782	F	M00042452C:C10	UC2-ColonMetLiver
3488	59512	1923.K11.gz43_252785	F	M00042458B:B08	UC2-ColonMetLiver
3489	550362	1923.M11.gz43_252787	F	M00042460C:A02	UC2-ColonMetLiver
3490	211273	1923.O11.gz43_252789	F	M00042517D:G04	UC2-ColonMetLiver
3491	450400	1923.I12.gz43_252799	F	M00042454A:F02	UC2-ColonMetLiver
3492	562627	1923.L12.gz43_252802	F	M00042459C:E06	UC2-ColonMetLiver
3493	494393	1923.B13.gz43_252808	F	M00042353D:B08	UC2-ColonMetLiver
3494	451049	1923.F13.gz43_252812	F	M00042448B:C04	UC2-ColonMetLiver
3495	558729	1923.K13.gz43_252817	F	M00042458B:G05	UC2-ColonMetLiver
3496	526733	1923.L13.gz43_252818	F	M00042459C:G02	UC2-ColonMetLiver
3497	558559	1923.N13.gz43_252820	F	M00042516B:E03	UC2-ColonMetLiver
3498	451518	1923.A14.gz43_252823	F	M00042352A:G05	UC2-ColonMetLiver
3499	349	1923.M14.gz43_252835	F	M00042460C:B02	UC2-ColonMetLiver
3500	456672	1923.A15.gz43_252839	F	M00042352A:G09	UC2-ColonMetLiver
3501	497101	1923.D15.gz43_252842	F	M00042443D:E01	UC2-ColonMetLiver
3502	488680	1923.H15.gz43_252846	F	M00042452D:C04	UC2-ColonMetLiver
3503	552236	1923.L15.gz43_252850	F	M00042459D:B07	UC2-ColonMetLiver
3504	450823	1923.B17.gz43_252872	F	M00042354B:A07	UC2-ColonMetLiver
3505	446263	1923.D17.gz43_252874	F	M00042444A:C10	UC2-ColonMetLiver
3506	492094	1923.H17.gz43_252878	F	M00042452D:G06	UC2-ColonMetLiver
3507	552581	1923.K17.gz43_252881	F	M00042458C:E06	UC2-ColonMetLiver
3508	494362	1923.G18.gz43_252893	F	M00042450C:B09	UC2-ColonMetLiver
3509	560420	1923.L18.gz43_252898	F	M00042459D:E03	UC2-ColonMetLiver
3510	562399	1923.N18.gz43_252900	F	M00042516C:C04	UC2-ColonMetLiver
3511	487522	1923.O18.gz43_252901	F	M00042518D:A08	UC2-ColonMetLiver
3512	498194	1923.A19.gz43_252903	F	M00042352B:F03	UC2-ColonMetLiver
3513	451126	1923.B19.gz43_252904	F	M00042354C:F04	UC2-ColonMetLiver
3514	450507	1923.E19.gz43_252907	F	M00042446B:G02	UC2-ColonMetLiver
3515	450723	1923.I19.gz43_252911	F	M00042454D:H10	UC2-ColonMetLiver
3516	492981	1923.J19.gz43_252912	F	M00042456C:H07	UC2-ColonMetLiver
3517	451054	1923.F20.gz43_252924	F	M00042448C:C09	UC2-ColonMetLiver
3518	453667	1923.J20.gz43_252928	F	M00042456D:B06	UC2-ColonMetLiver
3519	562588	1923.K20.gz43_252929	F	M00042458D:E06	UC2-ColonMetLiver
3520	527679	1923.L20.gz43_252930	F	M00042459D:G04	UC2-ColonMetLiver
3521	494133	1923.B22.gz43_252952	F	M00042355A:A12	UC2-ColonMetLiver
3522	492304	1923.I22.gz43_252959	F	M00042455A:G12	UC2-ColonMetLiver
3523	100821	1923.J22.gz43_252960	F	M00042456D:D07	UC2-ColonMetLiver
3524	562603	1923.M22.gz43_252963	F	M00042460C:G08	UC2-ColonMetLiver
3525	562275	1923.N22.gz43_252964	F	M00042516D:B11	UC2-ColonMetLiver
3526	451302	1923.A23.gz43_252967	F	M00042352C:G01	UC2-ColonMetLiver
3527	451126	1923.B23.gz43_252968	F	M00042355A:C03	UC2-ColonMetLiver
3528	494130	1923.C23.gz43_252969	F	M00042442A:A12	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3529	562587	1923.K23.gz43_252977	F	M00042459A:E04	UC2-ColonMetLiver
3530	562543	1923.M23.gz43_252979	F	M00042460C:H10	UC2-ColonMetLiver
3531	562398	1923.N23.gz43_252980	F	M00042516D:C01	UC2-ColonMetLiver
3532	497517	1923.P23.gz43_252982	F	M00043296A:E08	UC2-ColonMetLiver
3533	450902	1923.A24.gz43_252983	F	M00042352D:A11	UC2-ColonMetLiver
3534	499178	1923.C24.gz43_252985	F	M00042442A:G04	UC2-ColonMetLiver
3535	450507	1923.E24.gz43_252987	F	M00042446D:F04	UC2-ColonMetLiver
3536	448556	1923.F24.gz43_252988	F	M00042449A:H10	UC2-ColonMetLiver
3537	454575	1923.I24.gz43_252991	F	M00042455B:D05	UC2-ColonMetLiver
3538	275	1923.L24.gz43_252994	F	M00042460B:C06	UC2-ColonMetLiver
3539	452719	1934.C01.gz43_253001	F	M00043360C:E07	UC2-ColonMetLiver
3540	449842	1934.G02.gz43_253021	F	M00043369D:B01	UC2-ColonMetLiver
3541	489506	1934.N02.gz43_253028	F	M00043384D:D05	UC2-ColonMetLiver
3542	453893	1934.P02.gz43_253030	F	M00043388A:D05	UC2-ColonMetLiver
3543	452586	1934.A03.gz43_253031	F	M00043356B:E12	UC2-ColonMetLiver
3544	491177	1934.C03.gz43_253033	F	M00043360C:F11	UC2-ColonMetLiver
3545	496586	1934.M03.gz43_253043	F	M00043382C:D07	UC2-ColonMetLiver
3546	490393	1934.O03.gz43_253045	F	M00043387A:E02	UC2-ColonMetLiver
3547	450756	1934.D04.gz43_253050	F	M00043363B:A11	UC2-ColonMetLiver
3548	456492	1934.I04.gz43_253055	F	M00043373D:G04	UC2-ColonMetLiver
3549	490395	1934.O04.gz43_253061	F	M00043387A:E03	UC2-ColonMetLiver
3550	489275	1934.P04.gz43_253062	F	M00043388B:C02	UC2-ColonMetLiver
3551	489368	1934.C05.gz43_253065	F	M00043360D:D01	UC2-ColonMetLiver
3552	450756	1934.E05.gz43_253067	F	M00043364D:H11	UC2-ColonMetLiver
3553	496084	1934.K05.gz43_253073	F	M00043378D:D12	UC2-ColonMetLiver
3554	450193	1934.L05.gz43_253074	F	M00043380D:E10	UC2-ColonMetLiver
3555	499240	1934.M05.gz43_253075	F	M00043382C:G09	UC2-ColonMetLiver
3556	448230	1934.A06.gz43_253079	F	M00043356C:F03	UC2-ColonMetLiver
3557	455707	1934.H06.gz43_253086	F	M00043372B:B01	UC2-ColonMetLiver
3558	496760	1934.N06.gz43_253092	F	M00043385A:E01	UC2-ColonMetLiver
3559	447429	1934.A07.gz43_253095	F	M00043356C:H07	UC2-ColonMetLiver
3560	450551	1934.G07.gz43_253101	F	M00043369D:G10	UC2-ColonMetLiver
3561	451144	1934.J07.gz43_253104	F	M00043376B:C03	UC2-ColonMetLiver
3562	491402	1934.C08.gz43_253113	F	M00043361B:F02	UC2-ColonMetLiver
3563	449956	1934.E08.gz43_253115	F	M00043365A:C06	UC2-ColonMetLiver
3564	449959	1934.G08.gz43_253117	F	M00043370A:C08	UC2-ColonMetLiver
3565	560213	1934.I08.gz43_253119	F	M00043374A:E05	UC2-ColonMetLiver
3566	450482	1934.J08.gz43_253120	F	M00043376B:F06	UC2-ColonMetLiver
3567	449795	1934.B09.gz43_253128	F	M00043359B:A04	UC2-ColonMetLiver
3568	486856	1934.O09.gz43_253141	F	M00043387B:A03	UC2-ColonMetLiver
3569	450080	1934.C10.gz43_253145	F	M00043361D:A02	UC2-ColonMetLiver
3570	510272	1934.I10.gz43_253151	F	M00043374A:G04	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3571	450583	1934.A11.gz43_253159	F	M00043357A:G04	UC2-ColonMetLiver
3572	450193	1934.B11.gz43_253160	F	M00043359B:D06	UC2-ColonMetLiver
3573	134392	1934.M11.gz43_253171	F	M00043383B:F12	UC2-ColonMetLiver
3574	496234	1934.N11.gz43_253172	F	M00043385C:D06	UC2-ColonMetLiver
3575	487893	1934.A12.gz43_253175	F	M00043357B:B02	UC2-ColonMetLiver
3576	491507	1934.D12.gz43_253178	F	M00043363D:F07	UC2-ColonMetLiver
3577	233814	1934.J12.gz43_253184	F	M00043376D:A12	UC2-ColonMetLiver
3578	450189	1934.A13.gz43_253191	F	M00043357B:D01	UC2-ColonMetLiver
3579	488613	1934.E13.gz43_253195	F	M00043365B:C08	UC2-ColonMetLiver
3580	451011	1934.K13.gz43_253201	F	M00043379C:B09	UC2-ColonMetLiver
3581	450207	1934.G14.gz43_253213	F	M00043370B:D08	UC2-ColonMetLiver
3582	451185	1934.J14.gz43_253216	F	M00043376D:D12	UC2-ColonMetLiver
3583	551380	1934.L14.gz43_253218	F	M00043381B:E10	UC2-ColonMetLiver
3584	495143	1934.M14.gz43_253219	F	M00043383D:C07	UC2-ColonMetLiver
3585	487183	1934.O14.gz43_253221	F	M00043387C:A11	UC2-ColonMetLiver
3586	631526	1934.I15.gz43_253231	F	M00043374D:D07	UC2-ColonMetLiver
3587	449780	1934.E16.gz43_253243	F	M00043365C:A09	UC2-ColonMetLiver
3588	491492	1934.F16.gz43_253244	F	M00043368A:F03	UC2-ColonMetLiver
3589	494099	1934.K16.gz43_253249	F	M00043379D:A05	UC2-ColonMetLiver
3590	450819	1934.N16.gz43_253252	F	M00043386A:A11	UC2-ColonMetLiver
3591	488349	1934.P16.gz43_253254	F	M00043389D:B10	UC2-ColonMetLiver
3592	515423	1934.I17.gz43_253263	F	M00043374D:H09	UC2-ColonMetLiver
3593	490846	1934.C18.gz43_253273	F	M00043362C:E02	UC2-ColonMetLiver
3594	556511	1934.L18.gz43_253282	F	M00043381C:E10	UC2-ColonMetLiver
3595	487437	1934.M18.gz43_253283	F	M00043384B:A04	UC2-ColonMetLiver
3596	491240	1934.E19.gz43_253291	F	M00043365C:F06	UC2-ColonMetLiver
3597	452710	1934.H19.gz43_253294	F	M00043373A:G11	UC2-ColonMetLiver
3598	449959	1934.J20.gz43_253312	F	M00043377C:A11	UC2-ColonMetLiver
3599	449978	1934.P20.gz43_253318	F	M00043390B:C04	UC2-ColonMetLiver
3600	450242	1934.A21.gz43_253319	F	M00043358A:D02	UC2-ColonMetLiver
3601	451294	1934.I21.gz43_253327	F	M00043375A:E02	UC2-ColonMetLiver
3602	450080	1934.G22.gz43_253341	F	M00043371B:C10	UC2-ColonMetLiver
3603	451361	1934.J22.gz43_253344	F	M00043377D:E01	UC2-ColonMetLiver
3604	489207	1934.M22.gz43_253347	F	M00043384C:C02	UC2-ColonMetLiver
3605	488030	1934.O22.gz43_253349	F	M00043387D:B02	UC2-ColonMetLiver
3606	449908	1934.G23.gz43_253357	F	M00043371C:B02	UC2-ColonMetLiver
3607	450211	1934.O23.gz43_253365	F	M00043387D:D06	UC2-ColonMetLiver
3608	402916	1934.I24.gz43_253375	F	M00043375B:A04	UC2-ColonMetLiver
3609	494450	1934.J24.gz43_253376	F	M00043378B:B05	UC2-ColonMetLiver
3610	492627	1934.M24.gz43_253379	F	M00043384C:G01	UC2-ColonMetLiver
3611	550246	1947.J01.gz43_253404	F	M00054555D:C03	UC2-ColonMetLiver
3612	550952	1947.I06.gz43_253483	F	M00054555A:H09	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3613	555502	1947.A10.gz43_253539	F	M00054545C:B09	UC2-ColonMetLiver
3614	496586	1947.P21.gz43_253730	F	M00054566D:G08	UC2-ColonMetLiver
3615	515707	1947.G22.gz43_253737	F	M00054553D:E09	UC2-ColonMetLiver
3616	552092	1959.F03.gz43_253816	F	M00054631D:C02	UC2-ColonMetLiver
3617	549210	1959.M04.gz43_253839	F	M00054640B:C05	UC2-ColonMetLiver
3618	555923	1959.D08.gz43_253894	F	M00054629C:G06	UC2-ColonMetLiver
3619	461	1959.P08.gz43_253906	F	M00054644B:F02	UC2-ColonMetLiver
3620	551975	1959.D19.gz43_254070	F	M00054630B:A06	UC2-ColonMetLiver
3621	549516	1959.N22.gz43_254128	F	M00054642D:F11	UC2-ColonMetLiver
3622	555949	1959.K24.gz43_254157	F	M00054638D:F02	UC2-ColonMetLiver
3623	193991	1960.L03.gz43_254206	F	M00054661A:B03	UC2-ColonMetLiver
3624	561590	1960.I07.gz43_254267	F	M00054656C:E10	UC2-ColonMetLiver
3625	450867	1960.C12.gz43_254341	F	M00054648C:H10	UC2-ColonMetLiver
3626	264575	1960.N14.gz43_254384	F	M00054664D:A01	UC2-ColonMetLiver
3627	502683	1960.B23.gz43_254516	F	M00054647D:H02	UC2-ColonMetLiver
3628	452662	1960.E24.gz43_254535	F	M00054651D:D02	UC2-ColonMetLiver
3629	551269	1969.F03.gz43_254584	F	M00054674B:B03	UC2-ColonMetLiver
3630	579481	1969.C07.gz43_254645	F	M00054671A:H07	UC2-ColonMetLiver
3631	450624	1969.A10.gz43_254691	F	M00054668A:D01	UC2-ColonMetLiver
3632	415326	1969.N11.gz43_254720	F	M00054685D:D09	UC2-ColonMetLiver
3633	573733	1969.C24.gz43_254917	F	M00054671D:A12	UC2-ColonMetLiver
3634	551659	1983.D01.gz43_254934	F	M00054811D:F01	UC2-ColonMetLiver
3635	549816	1983.E06.gz43_255015	F	M00054812D:H05	UC2-ColonMetLiver
3636	557525	1983.F09.gz43_255064	F	M00054814A:F07	UC2-ColonMetLiver
3637	447405	1983.K11.gz43_255101	F	M00054823B:E07	UC2-ColonMetLiver
3638	494471	1983.C19.gz43_255221	F	M00054811B:H12	UC2-ColonMetLiver
3639	456520	1983.E19.gz43_255223	F	M00054813B:D11	UC2-ColonMetLiver
3640	533520	1984.N02.gz43_255344	F	M00054848B:E02	UC2-ColonMetLiver
3641	560984	1984.P06.gz43_255410	F	M00054851B:E03	UC2-ColonMetLiver
3642	562302	1984.G07.gz43_255417	F	M00054839D:F08	UC2-ColonMetLiver
3643	554196	1984.A12.gz43_255491	F	M00054831A:E11	UC2-ColonMetLiver
3644	557703	1984.G21.gz43_255641	F	M00054840D:B03	UC2-ColonMetLiver
3645	562243	1994.E15.gz43_255927	F	M00054877A:F01	UC2-ColonMetLiver
3646	559531	1994.A19.gz43_255987	F	M00054872A:H10	UC2-ColonMetLiver
3647	447483	1994.F22.gz43_256040	F	M00054878B:G03	UC2-ColonMetLiver
3648	549391	1994.K24.gz43_256077	F	M00054885C:G06	UC2-ColonMetLiver
3649	550204	1995.C02.gz43_256101	F	M00054893D:F07	UC2-ColonMetLiver
3650	554604	1995.K02.gz43_256109	F	M00054904A:F07	UC2-ColonMetLiver
3651	558326	1995.N02.gz43_256112	F	M00054908D:A07	UC2-ColonMetLiver
3652	557218	1995.A03.gz43_256115	F	M00054891D:H05	UC2-ColonMetLiver
3653	562152	1995.C03.gz43_256117	F	M00054893D:G09	UC2-ColonMetLiver
3654	562679	1995.F03.gz43_256120	F	M00054897C:F03	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3655	543855	1995.G03.gz43_256121	F	M00054898D:H12	UC2-ColonMetLiver
3656	555701	1995.J03.gz43_256124	F	M00054903A:G07	UC2-ColonMetLiver
3657	549376	1995.K03.gz43_256125	F	M00054904A:H10	UC2-ColonMetLiver
3658	522220	1995.M03.gz43_256127	F	M00054908A:F10	UC2-ColonMetLiver
3659	550710	1995.O03.gz43_256129	F	M00054922A:C11	UC2-ColonMetLiver
3660	562672	1995.E04.gz43_256135	F	M00054896B:E09	UC2-ColonMetLiver
3661	559088	1995.I04.gz43_256139	F	M00054901C:A04	UC2-ColonMetLiver
3662	447858	1995.D05.gz43_256150	F	M00054895B:D09	UC2-ColonMetLiver
3663	492256	1995.L05.gz43_256158	F	M00054906D:D06	UC2-ColonMetLiver
3664	550047	1995.B06.gz43_256164	F	M00054893A:F08	UC2-ColonMetLiver
3665	562579	1995.P06.gz43_256178	F	M00054923D:A08	UC2-ColonMetLiver
3666	556804	1995.F07.gz43_256184	F	M00054897D:E08	UC2-ColonMetLiver
3667	553102	1995.I07.gz43_256187	F	M00054901C:G01	UC2-ColonMetLiver
3668	559118	1995.P07.gz43_256194	F	M00054923D:D04	UC2-ColonMetLiver
3669	559554	1995.H08.gz43_256202	F	M00054900B:D12	UC2-ColonMetLiver
3670	510309	1995.K08.gz43_256205	F	M00054904C:B06	UC2-ColonMetLiver
3671	562492	1995.N08.gz43_256208	F	M00054910A:H12	UC2-ColonMetLiver
3672	553975	1995.O08.gz43_256209	F	M00054922B:A08	UC2-ColonMetLiver
3673	561525	1995.N09.gz43_256224	F	M00054910B:F07	UC2-ColonMetLiver
3674	150839	1995.O09.gz43_256225	F	M00054922B:A10	UC2-ColonMetLiver
3675	451049	1995.E10.gz43_256231	F	M00054896C:F01	UC2-ColonMetLiver
3676	560668	1995.H10.gz43_256234	F	M00054900B:G10	UC2-ColonMetLiver
3677	555260	1995.I10.gz43_256235	F	M00054901D:B01	UC2-ColonMetLiver
3678	555785	1995.J10.gz43_256236	F	M00054903C:F03	UC2-ColonMetLiver
3679	82864	1995.D11.gz43_256246	F	M00054895C:B07	UC2-ColonMetLiver
3680	559554	1995.H11.gz43_256250	F	M00054900C:B04	UC2-ColonMetLiver
3681	556404	1995.C12.gz43_256261	F	M00054894C:B11	UC2-ColonMetLiver
3682	516691	1995.H12.gz43_256266	F	M00054900C:C03	UC2-ColonMetLiver
3683	556499	1995.E13.gz43_256279	F	M00054896D:C01	UC2-ColonMetLiver
3684	453715	1995.F13.gz43_256280	F	M00054898A:G09	UC2-ColonMetLiver
3685	556753	1995.H13.gz43_256282	F	M00054900C:D08	UC2-ColonMetLiver
3686	549847	1995.J13.gz43_256284	F	M00054903C:G03	UC2-ColonMetLiver
3687	549822	1995.K13.gz43_256285	F	M00054904C:G09	UC2-ColonMetLiver
3688	489001	1995.L13.gz43_256286	F	M00054907B:E07	UC2-ColonMetLiver
3689	562989	1995.P13.gz43_256290	F	M00054924B:E10	UC2-ColonMetLiver
3690	555998	1995.A14.gz43_256291	F	M00054892C:G05	UC2-ColonMetLiver
3691	562106	1995.B14.gz43_256292	F	M00054893C:A06	UC2-ColonMetLiver
3692	557326	1995.E14.gz43_256295	F	M00054896D:C11	UC2-ColonMetLiver
3693	558935	1995.J14.gz43_256300	F	M00054903C:G04	UC2-ColonMetLiver
3694	399766	1995.L14.gz43_256302	F	M00054907B:F01	UC2-ColonMetLiver
3695	553976	1995.O14.gz43_256305	F	M00054922C:A11	UC2-ColonMetLiver
3696	554002	1995.B15.gz43_256308	F	M00054893C:A07	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3697	553691	1995.P15.gz43_256322	F	M00054924B:F07	UC2-ColonMetLiver
3698	556365	1995.B16.gz43_256324	F	M00054893C:B02	UC2-ColonMetLiver
3699	549228	1995.D16.gz43_256326	F	M00054895D:B02	UC2-ColonMetLiver
3700	553534	1995.G16.gz43_256329	F	M00054899C:D11	UC2-ColonMetLiver
3701	557004	1995.H16.gz43_256330	F	M00054900D:F11	UC2-ColonMetLiver
3702	555082	1995.M17.gz43_256351	F	M00054908C:A10	UC2-ColonMetLiver
3703	562714	1995.P17.gz43_256354	F	M00054924D:E01	UC2-ColonMetLiver
3704	552122	1995.D18.gz43_256358	F	M00054895D:C10	UC2-ColonMetLiver
3705	411272	1995.K18.gz43_256365	F	M00054904D:F07	UC2-ColonMetLiver
3706	454812	1995.A19.gz43_256371	F	M00054892D:D06	UC2-ColonMetLiver
3707	558177	1995.J19.gz43_256380	F	M00054903D:G01	UC2-ColonMetLiver
3708	556852	1995.P19.gz43_256386	F	M00054925A:B08	UC2-ColonMetLiver
3709	551463	1995.B20.gz43_256388	F	M00054893C:E04	UC2-ColonMetLiver
3710	558011	1995.G20.gz43_256393	F	M00054899D:C11	UC2-ColonMetLiver
3711	559088	1995.H20.gz43_256394	F	M00054901A:B04	UC2-ColonMetLiver
3712	595066	1995.I20.gz43_256395	F	M00054902B:G02	UC2-ColonMetLiver
3713	558868	1995.K20.gz43_256397	F	M00054904D:G04	UC2-ColonMetLiver
3714	458035	1995.F21.gz43_256408	F	M00054898B:D04	UC2-ColonMetLiver
3715	555837	1995.H21.gz43_256410	F	M00054901A:F01	UC2-ColonMetLiver
3716	452182	1995.I21.gz43_256411	F	M00054902C:A12	UC2-ColonMetLiver
3717	555967	1995.J21.gz43_256412	F	M00054903D:G10	UC2-ColonMetLiver
3718	474163	1995.B22.gz43_256420	F	M00054893C:G06	UC2-ColonMetLiver
3719	556169	1995.H22.gz43_256426	F	M00054901A:H11	UC2-ColonMetLiver
3720	558779	1995.C23.gz43_256437	F	M00054895B:A02	UC2-ColonMetLiver
3721	555830	1995.G23.gz43_256441	F	M00054899D:F07	UC2-ColonMetLiver
3722	974	1995.N23.gz43_256448	F	M00054921C:G01	UC2-ColonMetLiver
3723	556632	1995.B24.gz43_256452	F	M00054893D:D12	UC2-ColonMetLiver
3724	596809	1995.C24.gz43_256453	F	M00054895B:A08	UC2-ColonMetLiver
3725	495365	1995.N24.gz43_256464	F	M00054921C:G06	UC2-ColonMetLiver
3726	447639	1995.O24.gz43_256465	F	M00054923A:H02	UC2-ColonMetLiver
3727	418512	1996.K02.gz43_256517	F	M00054938A:B08	UC2-ColonMetLiver
3728	559728	1996.A04.gz43_256539	F	M00054925B:B01	UC2-ColonMetLiver
3729	67060	1996.P05.gz43_256570	F	M00054942C:B04	UC2-ColonMetLiver
3730	549171	1996.E06.gz43_256575	F	M00054931C:F10	UC2-ColonMetLiver
3731	562550	1996.O06.gz43_256585	F	M00054941C:G04	UC2-ColonMetLiver
3732	552566	1996.M08.gz43_256615	F	M00054939D:E03	UC2-ColonMetLiver
3733	473512	1996.B13.gz43_256684	F	M00054927C:C03	UC2-ColonMetLiver
3734	553535	1996.N16.gz43_256744	F	M00054940D:E06	UC2-ColonMetLiver
3735	555739	1996.I18.gz43_256771	F	M00054936B:G02	UC2-ColonMetLiver
3736	873	1996.N18.gz43_256776	F	M00054941A:A08	UC2-ColonMetLiver
3737	549805	1996.I19.gz43_256787	F	M00054936C:B08	UC2-ColonMetLiver
3738	550782	1996.B20.gz43_256796	F	M00054928A:C11	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3739	562106	1996.F20.gz43_256800	F	M00054933B:C02	UC2-ColonMetLiver
3740	481166	1996.P20.gz43_256810	F	M00054943A:H11	UC2-ColonMetLiver
3741	447585	1996.I21.gz43_256819	F	M00054936C:G03	UC2-ColonMetLiver
3742	561878	2005.K03.gz43_256919	F	M00054954A:F12	UC2-ColonMetLiver
3743	554833	2005.C07.gz43_256975	F	M00054945B:G09	UC2-ColonMetLiver
3744	126	2005.J08.gz43_256998	F	M00054952D:A11	UC2-ColonMetLiver
3745	496870	2005.I10.gz43_257029	F	M00054952A:B12	UC2-ColonMetLiver
3746	555526	2005.J12.gz43_257062	F	M00054953B:D07	UC2-ColonMetLiver
3747	562053	2005.A14.gz43_257085	F	M00054943D:F12	UC2-ColonMetLiver
3748	450524	2006.B02.gz43_257278	F	M00054961C:H07	UC2-ColonMetLiver
3749	557780	2006.P02.gz43_257292	F	M00054974C:A04	UC2-ColonMetLiver
3750	456795	2006.A03.gz43_257293	F	M00054960C:C03	UC2-ColonMetLiver
3751	556954	2006.E03.gz43_257297	F	M00054964A:F09	UC2-ColonMetLiver
3752	553021	2006.G03.gz43_257299	F	M00054966A:C11	UC2-ColonMetLiver
3753	494306	2006.H03.gz43_257300	F	M00054966D:H12	UC2-ColonMetLiver
3754	208278	2006.I03.gz43_257301	F	M00054967D:F08	UC2-ColonMetLiver
3755	504400	2006.L03.gz43_257304	F	M00054970C:C08	UC2-ColonMetLiver
3756	456203	2006.H05.gz43_257332	F	M00054967A:D11	UC2-ColonMetLiver
3757	599012	2006.C06.gz43_257343	F	M00054962C:D02	UC2-ColonMetLiver
3758	555394	2006.D06.gz43_257344	F	M00054963C:C08	UC2-ColonMetLiver
3759	593173	2006.G06.gz43_257347	F	M00054966A:D09	UC2-ColonMetLiver
3760	592941	2006.I06.gz43_257349	F	M00054968A:C11	UC2-ColonMetLiver
3761	554379	2006.K06.gz43_257351	F	M00054969D:D04	UC2-ColonMetLiver
3762	555103	2006.O06.gz43_257355	F	M00054973B:A10	UC2-ColonMetLiver
3763	556123	2006.J08.gz43_257382	F	M00054969A:E05	UC2-ColonMetLiver
3764	557421	2006.B09.gz43_257390	F	M00054961D:H08	UC2-ColonMetLiver
3765	450932	2006.K09.gz43_257399	F	M00054969D:G11	UC2-ColonMetLiver
3766	553204	2006.E10.gz43_257409	F	M00054964C:B07	UC2-ColonMetLiver
3767	556126	2006.G10.gz43_257411	F	M00054966A:G02	UC2-ColonMetLiver
3768	554204	2006.M11.gz43_257433	F	M00054971C:C11	UC2-ColonMetLiver
3769	556552	2006.P11.gz43_257436	F	M00054974D:C11	UC2-ColonMetLiver
3770	554524	2006.N12.gz43_257450	F	M00054972B:E06	UC2-ColonMetLiver
3771	559047	2006.P12.gz43_257452	F	M00054975A:C08	UC2-ColonMetLiver
3772	554365	2006.P15.gz43_257500	F	M00054975B:B06	UC2-ColonMetLiver
3773	556740	2006.A17.gz43_257517	F	M00054961B:D07	UC2-ColonMetLiver
3774	531145	2006.C17.gz43_257519	F	M00054963A:C12	UC2-ColonMetLiver
3775	557883	2006.F18.gz43_257538	F	M00054965C:C04	UC2-ColonMetLiver
3776	470386	2006.K18.gz43_257543	F	M00054970A:G03	UC2-ColonMetLiver
3777	596152	2006.M18.gz43_257545	F	M00054971C:H06	UC2-ColonMetLiver
3778	556552	2006.J19.gz43_257558	F	M00054969B:F12	UC2-ColonMetLiver
3779	560696	2006.C20.gz43_257567	F	M00054963A:E02	UC2-ColonMetLiver
3780	218113	2006.K20.gz43_257575	F	M00054970B:B02	UC2-ColonMetLiver



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3781	557559	2006.L20.gz43_257576	F	M00054971A:D04	UC2-ColonMetLiver
3782	129715	2006.B22.gz43_257598	F	M00054962A:H07	UC2-ColonMetLiver
3783	553976	2006.C22.gz43_257599	F	M00054963A:G12	UC2-ColonMetLiver
3784	561984	2006.D22.gz43_257600	F	M00054964A:B09	UC2-ColonMetLiver
3785	497938	2006.G22.gz43_257603	F	M00054966D:C05	UC2-ColonMetLiver
3786	556951	2006.J22.gz43_257606	F	M00054969C:G09	UC2-ColonMetLiver
3787	553983	2006.N22.gz43_257610	F	M00054972D:A10	UC2-ColonMetLiver
3788	549579	2006.P22.gz43_257612	F	M00054975C:D08	UC2-ColonMetLiver
3789	555135	2006.B23.gz43_257614	F	M00054962B:A07	UC2-ColonMetLiver
3790	471257	2006.C23.gz43_257615	F	M00054963A:H04	UC2-ColonMetLiver
3791	557080	2006.J23.gz43_257622	F	M00054969C:H05	UC2-ColonMetLiver
3792	554643	2006.M23.gz43_257625	F	M00054971D:F04	UC2-ColonMetLiver
3793	558707	2007.A01.gz43_257645	F	M00054975C:E02	UC2-ColonMetLiver
3794	557420	2007.M02.gz43_257673	F	M00054993D:F04	UC2-ColonMetLiver
3795	482509	2007.A03.gz43_257677	F	M00054975C:G06	UC2-ColonMetLiver
3796	471827	2007.J03.gz43_257686	F	M00054989B:C11	UC2-ColonMetLiver
3797	556841	2007.K03.gz43_257687	F	M00054991B:E11	UC2-ColonMetLiver
3798	597957	2007.L03.gz43_257688	F	M00054992D:C12	UC2-ColonMetLiver
3799	556768	2007.C04.gz43_257695	F	M00054978C:E07	UC2-ColonMetLiver
3800	170450	2007.F04.gz43_257698	F	M00054983C:F05	UC2-ColonMetLiver
3801	555593	2007.I04.gz43_257701	F	M00054987B:D06	UC2-ColonMetLiver
3802	556839	2007.J04.gz43_257702	F	M00054989B:E04	UC2-ColonMetLiver
3803	551967	2007.A05.gz43_257709	F	M00054976A:A03	UC2-ColonMetLiver
3804	550814	2007.I05.gz43_257717	F	M00054987B:G05	UC2-ColonMetLiver
3805	557811	2007.L05.gz43_257720	F	M00054992D:F06	UC2-ColonMetLiver
3806	559580	2007.J06.gz43_257734	F	M00054989C:C12	UC2-ColonMetLiver
3807	554764	2007.N06.gz43_257738	F	M00054995B:G12	UC2-ColonMetLiver
3808	554395	2007.P06.gz43_257740	F	M00054997D:E01	UC2-ColonMetLiver
3809	555639	2007.H07.gz43_257748	F	M00054986B:D07	UC2-ColonMetLiver
3810	556561	2007.E08.gz43_257761	F	M00054981D:C06	UC2-ColonMetLiver
3811	454463	2007.I08.gz43_257765	F	M00054987C:A11	UC2-ColonMetLiver
3812	454463	2007.K08.gz43_257767	F	M00054991C:E01	UC2-ColonMetLiver
3813	562750	2007.C09.gz43_257775	F	M00054978D:H09	UC2-ColonMetLiver
3814	560652	2007.F09.gz43_257778	F	M00054983D:D05	UC2-ColonMetLiver
3815	553615	2007.I09.gz43_257781	F	M00054987C:B12	UC2-ColonMetLiver
3816	555512	2007.F10.gz43_257794	F	M00054984A:A05	UC2-ColonMetLiver
3817	556598	2007.I10.gz43_257797	F	M00054987C:G04	UC2-ColonMetLiver
3818	552188	2007.J10.gz43_257798	F	M00054990A:F10	UC2-ColonMetLiver
3819	558670	2007.A11.gz43_257805	F	M00054976C:A03	UC2-ColonMetLiver
3820	452682	2007.M11.gz43_257817	F	M00054994B:D11	UC2-ColonMetLiver
3821	553915	2007.P11.gz43_257820	F	M00055000A:H10	UC2-ColonMetLiver
3822	550886	2007.C12.gz43_257823	F	M00054979A:H10	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3823	553787	2007.H12.gz43_257828	F	M00054986C:D08	UC2-ColonMetLiver
3824	475624	2007.I12.gz43_257829	F	M00054987D:D01	UC2-ColonMetLiver
3825	554212	2007.O12.gz43_257835	F	M00054997A:C02	UC2-ColonMetLiver
3826	555883	2007.P12.gz43_257836	F	M00055000B:B04	UC2-ColonMetLiver
3827	458257	2007.B13.gz43_257838	F	M00054977C:A09	UC2-ColonMetLiver
3828	555197	2007.D13.gz43_257840	F	M00054980D:H07	UC2-ColonMetLiver
3829	553732	2007.P13.gz43_257852	F	M00055000B:F02	UC2-ColonMetLiver
3830	556416	2007.B14.gz43_257854	F	M00054977C:B08	UC2-ColonMetLiver
3831	501056	2007.B15.gz43_257870	F	M00054977C:D08	UC2-ColonMetLiver
3832	552437	2007.E15.gz43_257873	F	M00054982C:A02	UC2-ColonMetLiver
3833	555658	2007.L15.gz43_257880	F	M00054993B:H06	UC2-ColonMetLiver
3834	476732	2007.O15.gz43_257883	F	M00054997A:G11	UC2-ColonMetLiver
3835	556690	2007.B16.gz43_257886	F	M00054977C:D12	UC2-ColonMetLiver
3836	557615	2007.H16.gz43_257892	F	M00054986D:D11	UC2-ColonMetLiver
3837	543429	2007.G17.gz43_257907	F	M00054985C:B12	UC2-ColonMetLiver
3838	554793	2007.H17.gz43_257908	F	M00054986D:E03	UC2-ColonMetLiver
3839	556396	2007.I17.gz43_257909	F	M00054988C:B08	UC2-ColonMetLiver
3840	556288	2007.J17.gz43_257910	F	M00054990C:A08	UC2-ColonMetLiver
3841	552055	2007.L17.gz43_257912	F	M00054993C:C10	UC2-ColonMetLiver
3842	549516	2007.P17.gz43_257916	F	M00055000C:F08	UC2-ColonMetLiver
3843	561112	2007.B18.gz43_257918	F	M00054977C:F09	UC2-ColonMetLiver
3844	557054	2007.C18.gz43_257919	F	M00054979B:G12	UC2-ColonMetLiver
3845	483410	2007.D18.gz43_257920	F	M00054981B:B09	UC2-ColonMetLiver
3846	598589	2007.G18.gz43_257923	F	M00054985C:D04	UC2-ColonMetLiver
3847	559096	2007.O18.gz43_257931	F	M00054997B:F10	UC2-ColonMetLiver
3848	556759	2007.I19.gz43_257941	F	M00054988C:G02	UC2-ColonMetLiver
3849	555277	2007.K19.gz43_257943	F	M00054992A:C08	UC2-ColonMetLiver
3850	551694	2007.B20.gz43_257950	F	M00054977D:B06	UC2-ColonMetLiver
3851	562655	2007.E20.gz43_257953	F	M00054983A:F08	UC2-ColonMetLiver
3852	559053	2007.H20.gz43_257956	F	M00054987A:A09	UC2-ColonMetLiver
3853	556286	2007.J20.gz43_257958	F	M00054990D:A06	UC2-ColonMetLiver
3854	551798	2007.K20.gz43_257959	F	M00054992A:D11	UC2-ColonMetLiver
3855	549214	2007.N20.gz43_257962	F	M00054996A:D10	UC2-ColonMetLiver
3856	467293	2007.D21.gz43_257968	F	M00054981B:H12	UC2-ColonMetLiver
3857	503452	2007.J21.gz43_257974	F	M00054990D:F04	UC2-ColonMetLiver
3858	556019	2007.L22.gz43_257992	F	M00054993C:G12	UC2-ColonMetLiver
3859	560748	2007.G23.gz43_258003	F	M00054985D:E03	UC2-ColonMetLiver
3860	562323	2007.L23.gz43_258008	F	M00054993C:H05	UC2-ColonMetLiver
3861	2284	2007.A24.gz43_258013	F	M00054976D:F06	UC2-ColonMetLiver
3862	481243	2007.D24.gz43_258016	F	M00054981C:A11	UC2-ColonMetLiver
3863	555958	2007.N24.gz43_258026	F	M00054996B:C11	UC2-ColonMetLiver
3864	560984	2007.O24.gz43_258027	F	M00054997C:H03	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3865	555967	2008.N01.gz43_258044	F	M00055016D:C07	UC2-ColonMetLiver
3866	556488	2008.P01.gz43_258046	F	M00055019B:B11	UC2-ColonMetLiver
3867	553064	2008.A02.gz43_258047	F	M00055001A:B10	UC2-ColonMetLiver
3868	552006	2008.D02.gz43_258050	F	M00055005A:C07	UC2-ColonMetLiver
3869	559676	2008.E02.gz43_258051	F	M00055006A:D01	UC2-ColonMetLiver
3870	557308	2008.J02.gz43_258056	F	M00055011B:F09	UC2-ColonMetLiver
3871	549723	2008.N02.gz43_258060	F	M00055016D:C11	UC2-ColonMetLiver
3872	549912	2008.B03.gz43_258064	F	M00055002B:E07	UC2-ColonMetLiver
3873	551444	2008.G03.gz43_258069	F	M00055008C:F09	UC2-ColonMetLiver
3874	557240	2008.P03.gz43_258078	F	M00055019B:H10	UC2-ColonMetLiver
3875	559011	2008.C04.gz43_258081	F	M00055003C:E08	UC2-ColonMetLiver
3876	555701	2008.D04.gz43_258082	F	M00055005A:E02	UC2-ColonMetLiver
3877	556115	2008.P04.gz43_258094	F	M00055019C:C01	UC2-ColonMetLiver
3878	556042	2008.B05.gz43_258096	F	M00055002B:G03	UC2-ColonMetLiver
3879	558212	2008.E05.gz43_258099	F	M00055006B:A09	UC2-ColonMetLiver
3880	554932	2008.G05.gz43_258101	F	M00055008C:H10	UC2-ColonMetLiver
3881	548858	2008.J05.gz43_258104	F	M00055011C:E04	UC2-ColonMetLiver
3882	605117	2008.L05.gz43_258106	F	M00055014B:E08	UC2-ColonMetLiver
3883	560525	2008.M05.gz43_258107	F	M00055015D:C09	UC2-ColonMetLiver
3884	597780	2008.I06.gz43_258119	F	M00055010C:C10	UC2-ColonMetLiver
3885	411113	2008.N06.gz43_258124	F	M00055017A:A11	UC2-ColonMetLiver
3886	552674	2008.E07.gz43_258131	F	M00055006B:C08	UC2-ColonMetLiver
3887	495942	2008.O07.gz43_258141	F	M00055018C:C06	UC2-ColonMetLiver
3888	34381	2008.F08.gz43_258148	F	M00055007C:D01	UC2-ColonMetLiver
3889	549195	2008.H08.gz43_258150	F	M00055009C:F06	UC2-ColonMetLiver
3890	554084	2008.L08.gz43_258154	F	M00055014C:F05	UC2-ColonMetLiver
3891	557121	2008.P08.gz43_258158	F	M00055019C:G06	UC2-ColonMetLiver
3892	554693	2008.A09.gz43_258159	F	M00055001A:G05	UC2-ColonMetLiver
3893	134237	2008.C09.gz43_258161	F	M00055003D:F09	UC2-ColonMetLiver
3894	594994	2008.H09.gz43_258166	F	M00055009C:F07	UC2-ColonMetLiver
3895	555371	2008.I09.gz43_258167	F	M00055010D:A02	UC2-ColonMetLiver
3896	347057	2008.E10.gz43_258179	F	M00055006B:E05	UC2-ColonMetLiver
3897	558378	2008.H10.gz43_258182	F	M00055009D:D12	UC2-ColonMetLiver
3898	497086	2008.K10.gz43_258185	F	M00055013B:B07	UC2-ColonMetLiver
3899	554379	2008.B11.gz43_258192	F	M00055002D:A07	UC2-ColonMetLiver
3900	451118	2008.L11.gz43_258202	F	M00055014D:A11	UC2-ColonMetLiver
3901	557059	2008.M11.gz43_258203	F	M00055015D:G05	UC2-ColonMetLiver
3902	604179	2008.O11.gz43_258205	F	M00055018D:D01	UC2-ColonMetLiver
3903	556487	2008.P11.gz43_258206	F	M00055019D:B02	UC2-ColonMetLiver
3904	562550	2008.B12.gz43_258208	F	M00055002D:E04	UC2-ColonMetLiver
3905	556530	2008.L12.gz43_258218	F	M00055015A:C08	UC2-ColonMetLiver
3906	524897	2008.O12.gz43_258221	F	M00055018D:E05	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3907	480960	2008.F13.gz43_258228	F	M00055007D:D11	UC2-ColonMetLiver
3908	560563	2008.G13.gz43_258229	F	M00055008D:F05	UC2-ColonMetLiver
3909	555512	2008.I13.gz43_258231	F	M00055010D:D08	UC2-ColonMetLiver
3910	143218	2008.L13.gz43_258234	F	M00055015A:E04	UC2-ColonMetLiver
3911	556616	2008.N13.gz43_258236	F	M00055017C:C12	UC2-ColonMetLiver
3912	552613	2008.A14.gz43_258239	F	M00055001B:H05	UC2-ColonMetLiver
3913	555658	2008.I14.gz43_258247	F	M00055010D:E08	UC2-ColonMetLiver
3914	516018	2008.K14.gz43_258249	F	M00055013B:H01	UC2-ColonMetLiver
3915	604859	2008.M14.gz43_258251	F	M00055016A:E04	UC2-ColonMetLiver
3916	553967	2008.A15.gz43_258255	F	M00055001C:A11	UC2-ColonMetLiver
3917	600021	2008.I15.gz43_258263	F	M00055010D:F11	UC2-ColonMetLiver
3918	437580	2008.B16.gz43_258272	F	M00055003A:D11	UC2-ColonMetLiver
3919	556616	2008.D16.gz43_258274	F	M00055005C:G04	UC2-ColonMetLiver
3920	551268	2008.O16.gz43_258285	F	M00055018D:H03	UC2-ColonMetLiver
3921	335714	2008.A17.gz43_258287	F	M00055001C:C10	UC2-ColonMetLiver
3922	460445	2008.D17.gz43_258290	F	M00055005D:B08	UC2-ColonMetLiver
3923	362109	2008.I17.gz43_258295	F	M00055011A:B11	UC2-ColonMetLiver
3924	556320	2008.J17.gz43_258296	F	M00055012B:A10	UC2-ColonMetLiver
3925	931	2008.L17.gz43_258298	F	M00055015B:A04	UC2-ColonMetLiver
3926	494300	2008.M17.gz43_258299	F	M00055016B:E02	UC2-ColonMetLiver
3927	453908	2008.N17.gz43_258300	F	M00055017D:D05	UC2-ColonMetLiver
3928	549690	2008.A18.gz43_258303	F	M00055001C:G07	UC2-ColonMetLiver
3929	555949	2008.B18.gz43_258304	F	M00055003A:G04	UC2-ColonMetLiver
3930	555289	2008.D18.gz43_258306	F	M00055005D:C11	UC2-ColonMetLiver
3931	550497	2008.F18.gz43_258308	F	M00055008B:E08	UC2-ColonMetLiver
3932	559464	2008.I18.gz43_258311	F	M00055011A:C06	UC2-ColonMetLiver
3933	601219	2008.B19.gz43_258320	F	M00055003A:H01	UC2-ColonMetLiver
3934	522762	2008.F19.gz43_258324	F	M00055008B:F03	UC2-ColonMetLiver
3935	558530	2008.F20.gz43_258340	F	M00055008B:F04	UC2-ColonMetLiver
3936	551656	2008.H20.gz43_258342	F	M00055010A:H05	UC2-ColonMetLiver
3937	554245	2008.N20.gz43_258348	F	M00055017D:E08	UC2-ColonMetLiver
3938	562142	2008.P20.gz43_258350	F	M00055020A:G11	UC2-ColonMetLiver
3939	555639	2008.B21.gz43_258352	F	M00055003B:E07	UC2-ColonMetLiver
3940	388688	2008.I21.gz43_258359	F	M00055011A:F06	UC2-ColonMetLiver
3941	476438	2008.J21.gz43_258360	F	M00055012B:H12	UC2-ColonMetLiver
3942	560097	2008.L21.gz43_258362	F	M00055015B:E09	UC2-ColonMetLiver
3943	557308	2008.M21.gz43_258363	F	M00055016C:G04	UC2-ColonMetLiver
3944	553523	2008.D22.gz43_258370	F	M00055005D:G04	UC2-ColonMetLiver
3945	460169	2008.H22.gz43_258374	F	M00055010B:A06	UC2-ColonMetLiver
3946	558744	2008.B23.gz43_258384	F	M00055003B:G11	UC2-ColonMetLiver
3947	495984	2008.I23.gz43_258391	F	M00055011A:G12	UC2-ColonMetLiver
3948	497513	2008.H24.gz43_258406	F	M00055010B:C11	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3949	557910	2017.B02.gz43_258434	F	M00055020D:G06	UC2-ColonMetLiver
3950	557603	2017.I02.gz43_258441	F	M00055029C:D05	UC2-ColonMetLiver
3951	523495	2017.M03.gz43_258461	F	M00055034B:G04	UC2-ColonMetLiver
3952	390017	2017.H04.gz43_258472	F	M00055028C:D05	UC2-ColonMetLiver
3953	610986	2017.B05.gz43_258482	F	M00055021A:F08	UC2-ColonMetLiver
3954	551884	2017.E05.gz43_258485	F	M00055024D:E09	UC2-ColonMetLiver
3955	559447	2017.E06.gz43_258501	F	M00055024D:F07	UC2-ColonMetLiver
3956	322123	2017.F06.gz43_258502	F	M00055026A:G08	UC2-ColonMetLiver
3957	556258	2017.H06.gz43_258504	F	M00055028D:A08	UC2-ColonMetLiver
3958	561279	2017.K06.gz43_258507	F	M00055032B:D08	UC2-ColonMetLiver
3959	550815	2017.E07.gz43_258517	F	M00055024D:G09	UC2-ColonMetLiver
3960	561935	2017.D08.gz43_258532	F	M00055023C:G11	UC2-ColonMetLiver
3961	557733	2017.J08.gz43_258538	F	M00055031B:E05	UC2-ColonMetLiver
3962	556852	2017.N09.gz43_258558	F	M00055035D:E07	UC2-ColonMetLiver
3963	557049	2017.D10.gz43_258564	F	M00055023D:G02	UC2-ColonMetLiver
3964	560250	2017.E10.gz43_258565	F	M00055025A:D11	UC2-ColonMetLiver
3965	560294	2017.H10.gz43_258568	F	M00055028D:E10	UC2-ColonMetLiver
3966	481930	2017.D11.gz43_258580	F	M00055024A:B04	UC2-ColonMetLiver
3967	550986	2017.E11.gz43_258581	F	M00055025B:A03	UC2-ColonMetLiver
3968	560621	2017.H11.gz43_258584	F	M00055029A:A02	UC2-ColonMetLiver
3969	549599	2017.I11.gz43_258585	F	M00055030B:E03	UC2-ColonMetLiver
3970	558004	2017.J11.gz43_258586	F	M00055031B:H08	UC2-ColonMetLiver
3971	562590	2017.L12.gz43_258604	F	M00055033B:H01	UC2-ColonMetLiver
3972	558755	2017.N12.gz43_258606	F	M00055035D:F09	UC2-ColonMetLiver
3973	556458	2017.M13.gz43_258621	F	M00055034D:A10	UC2-ColonMetLiver
3974	450059	2017.B14.gz43_258626	F	M00055021B:G09	UC2-ColonMetLiver
3975	557353	2017.C14.gz43_258627	F	M00055022C:B12	UC2-ColonMetLiver
3976	560898	2017.D14.gz43_258628	F	M00055024A:C07	UC2-ColonMetLiver
3977	461850	2017.I14.gz43_258633	F	M00055030B:H07	UC2-ColonMetLiver
3978	552848	2017.J14.gz43_258634	F	M00055031C:B11	UC2-ColonMetLiver
3979	552891	2017.F16.gz43_258662	F	M00055026C:E07	UC2-ColonMetLiver
3980	454483	2017.G16.gz43_258663	F	M00055027D:E08	UC2-ColonMetLiver
3981	508671	2017.D18.gz43_258692	F	M00055024B:E02	UC2-ColonMetLiver
3982	456183	2017.N18.gz43_258702	F	M00055036A:H10	UC2-ColonMetLiver
3983	557578	2017.O18.gz43_258703	F	M00055037C:D01	UC2-ColonMetLiver
3984	561868	2017.D19.gz43_258708	F	M00055024B:E03	UC2-ColonMetLiver
3985	556856	2017.F19.gz43_258710	F	M00055026D:E12	UC2-ColonMetLiver
3986	557010	2017.L19.gz43_258716	F	M00055033D:D03	UC2-ColonMetLiver
3987	529356	2017.D21.gz43_258740	F	M00055024B:E06	UC2-ColonMetLiver
3988	557883	2017.L21.gz43_258748	F	M00055033D:G01	UC2-ColonMetLiver
3989	549114	2017.B22.gz43_258754	F	M00055021D:F06	UC2-ColonMetLiver
3990	556933	2017.D22.gz43_258756	F	M00055024B:F02	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
3991	494314	2017.F22.gz43_258758	F	M00055027A:E04	UC2-ColonMetLiver
3992	408586	2017.M22.gz43_258765	F	M00055035B:D11	UC2-ColonMetLiver
3993	460078	2017.L23.gz43_258780	F	M00055034A:G01	UC2-ColonMetLiver
3994	561836	2017.N23.gz43_258782	F	M00055036B:H02	UC2-ColonMetLiver
3995	558185	2043.D03.gz43_259228	F	M00055222D:B11	UC2-ColonMetLiver
3996	550632	2043.F03.gz43_259230	F	M00055225C:E08	UC2-ColonMetLiver
3997	551677	2043.J03.gz43_259234	F	M00055230A:H01	UC2-ColonMetLiver
3998	451720	2043.N03.gz43_259238	F	M00055236C:E05	UC2-ColonMetLiver
3999	559447	2043.L05.gz43_259268	F	M00055233C:F09	UC2-ColonMetLiver
4000	558230	2043.P05.gz43_259272	F	M00055239B:C05	UC2-ColonMetLiver
4001	554627	2043.A06.gz43_259273	F	M00055219B:B04	UC2-ColonMetLiver
4002	558422	2043.N06.gz43_259286	F	M00055236D:E04	UC2-ColonMetLiver
4003	558679	2043.G08.gz43_259311	F	M00055226C:H05	UC2-ColonMetLiver
4004	491240	2043.F09.gz43_259326	F	M00055225D:G11	UC2-ColonMetLiver
4005	550815	2043.H09.gz43_259328	F	M00055227C:D02	UC2-ColonMetLiver
4006	481362	2043.P10.gz43_259352	F	M00055239C:F08	UC2-ColonMetLiver
4007	467710	2043.C11.gz43_259355	F	M00055221D:H08	UC2-ColonMetLiver
4008	557965	2043.B12.gz43_259370	F	M00055220D:G07	UC2-ColonMetLiver
4009	380127	2043.C12.gz43_259371	F	M00055222A:A06	UC2-ColonMetLiver
4010	374281	2043.M12.gz43_259381	F	M00055235B:C01	UC2-ColonMetLiver
4011	464067	2043.C13.gz43_259387	F	M00055222A:C08	UC2-ColonMetLiver
4012	552521	2043.D13.gz43_259388	F	M00055223B:C04	UC2-ColonMetLiver
4013	552019	2043.P13.gz43_259400	F	M00055239D:C01	UC2-ColonMetLiver
4014	556790	2043.A14.gz43_259401	F	M00055219C:C10	UC2-ColonMetLiver
4015	557411	2043.K14.gz43_259411	F	M00055232C:D04	UC2-ColonMetLiver
4016	378459	2043.L15.gz43_259428	F	M00055233D:G11	UC2-ColonMetLiver
4017	550571	2043.H16.gz43_259440	F	M00055227D:E07	UC2-ColonMetLiver
4018	557676	2043.P16.gz43_259448	F	M00055239D:G04	UC2-ColonMetLiver
4019	558652	2043.A17.gz43_259449	F	M00055219C:H06	UC2-ColonMetLiver
4020	559053	2043.I17.gz43_259457	F	M00055229C:D01	UC2-ColonMetLiver
4021	552086	2043.C18.gz43_259467	F	M00055222B:A01	UC2-ColonMetLiver
4022	552430	2043.L18.gz43_259476	F	M00055234A:G12	UC2-ColonMetLiver
4023	562317	2043.P19.gz43_259496	F	M00055240A:B07	UC2-ColonMetLiver
4024	543540	2043.I22.gz43_259537	F	M00055229D:D07	UC2-ColonMetLiver
4025	489275	2043.F23.gz43_259550	F	M00055226C:A11	UC2-ColonMetLiver
4026	450193	2043.M23.gz43_259557	F	M00055236B:C07	UC2-ColonMetLiver
4027	557656	2043.O23.gz43_259559	F	M00055238D:D10	UC2-ColonMetLiver
4028	559764	2043.D24.gz43_259564	F	M00055223D:H03	UC2-ColonMetLiver
4029	560717	2043.E24.gz43_259565	F	M00055225B:H01	UC2-ColonMetLiver
4030	552249	2043.P24.gz43_259576	F	M00055240B:E12	UC2-ColonMetLiver
4031	556829	2044.G02.gz43_259603	F	M00055248D:B12	UC2-ColonMetLiver
4032	558093	2044.A03.gz43_259613	F	M00055240C:A03	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4033	616134	2044.B03.gz43_259614	F	M00055241D:F10	UC2-ColonMetLiver
4034	558355	2044.E03.gz43_259617	F	M00055245D:A04	UC2-ColonMetLiver
4035	558785	2044.J03.gz43_259622	F	M00055252B:D07	UC2-ColonMetLiver
4036	607430	2044.F04.gz43_259634	F	M00055247B:A11	UC2-ColonMetLiver
4037	558512	2044.L04.gz43_259640	F	M00055255B:F05	UC2-ColonMetLiver
4038	488574	2044.N04.gz43_259642	F	M00055257D:A11	UC2-ColonMetLiver
4039	558098	2044.P04.gz43_259644	F	M00055260B:A05	UC2-ColonMetLiver
4040	557389	2044.F05.gz43_259650	F	M00055247C:B01	UC2-ColonMetLiver
4041	557928	2044.K05.gz43_259655	F	M00055254A:E02	UC2-ColonMetLiver
4042	551305	2044.E06.gz43_259665	F	M00055245D:D01	UC2-ColonMetLiver
4043	504415	2044.H06.gz43_259668	F	M00055250B:A05	UC2-ColonMetLiver
4044	549052	2044.I06.gz43_259669	F	M00055251C:D01	UC2-ColonMetLiver
4045	138927	2044.O06.gz43_259675	F	M00055259A:G06	UC2-ColonMetLiver
4046	554246	2044.N07.gz43_259690	F	M00055257D:E02	UC2-ColonMetLiver
4047	159419	2044.J08.gz43_259702	F	M00055252C:E02	UC2-ColonMetLiver
4048	460049	2044.P08.gz43_259708	F	M00055260B:H06	UC2-ColonMetLiver
4049	560317	2044.D09.gz43_259712	F	M00055244D:C07	UC2-ColonMetLiver
4050	560317	2044.E09.gz43_259713	F	M00055246A:C01	UC2-ColonMetLiver
4051	552357	2044.H09.gz43_259716	F	M00055250B:G09	UC2-ColonMetLiver
4052	560144	2044.P09.gz43_259724	F	M00055260C:A11	UC2-ColonMetLiver
4053	560669	2044.E10.gz43_259729	F	M00055246A:E10	UC2-ColonMetLiver
4054	423884	2044.N10.gz43_259738	F	M00055258A:C07	UC2-ColonMetLiver
4055	523732	2044.I11.gz43_259749	F	M00055251C:H07	UC2-ColonMetLiver
4056	493359	2044.K11.gz43_259751	F	M00055254C:A06	UC2-ColonMetLiver
4057	560204	2044.E14.gz43_259793	F	M00055246B:C04	UC2-ColonMetLiver
4058	558461	2044.F14.gz43_259794	F	M00055248A:F10	UC2-ColonMetLiver
4059	447380	2044.J14.gz43_259798	F	M00055252D:C10	UC2-ColonMetLiver
4060	558559	2044.O14.gz43_259803	F	M00055259B:G11	UC2-ColonMetLiver
4061	450025	2044.A15.gz43_259805	F	M00055241A:C06	UC2-ColonMetLiver
4062	484086	2044.E15.gz43_259809	F	M00055246B:D10	UC2-ColonMetLiver
4063	558861	2044.K15.gz43_259815	F	M00055254D:B10	UC2-ColonMetLiver
4064	486787	2044.C16.gz43_259823	F	M00055243D:C06	UC2-ColonMetLiver
4065	562256	2044.L16.gz43_259832	F	M00055256A:D12	UC2-ColonMetLiver
4066	561579	2044.E17.gz43_259841	F	M00055246C:F08	UC2-ColonMetLiver
4067	560205	2044.J17.gz43_259846	F	M00055253A:C07	UC2-ColonMetLiver
4068	558134	2044.M17.gz43_259849	F	M00055257B:B10	UC2-ColonMetLiver
4069	488143	2044.H18.gz43_259860	F	M00055251A:B09	UC2-ColonMetLiver
4070	500737	2044.I18.gz43_259861	F	M00055251D:H11	UC2-ColonMetLiver
4071	238121	2044.C20.gz43_259887	F	M00055244A:C06	UC2-ColonMetLiver
4072	629002	2044.D20.gz43_259888	F	M00055245B:H01	UC2-ColonMetLiver
4073	562256	2044.L21.gz43_259912	F	M00055256B:C07	UC2-ColonMetLiver
4074	541784	2044.B22.gz43_259918	F	M00055242D:E02	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4075	560507	2044.D22.gz43_259920	F	M00055245C:D04	UC2-ColonMetLiver
4076	555340	2044.F22.gz43_259922	F	M00055248C:B11	UC2-ColonMetLiver
4077	560059	2044.G22.gz43_259923	F	M00055249C:B12	UC2-ColonMetLiver
4078	494130	2044.K24.gz43_259959	F	M00055255A:F11	UC2-ColonMetLiver
4079	557928	2044.L24.gz43_259960	F	M00055256B:G05	UC2-ColonMetLiver
4080	559321	2053.K01.gz43_259984	F	M00055272D:E04	UC2-ColonMetLiver
4081	34381	2053.E02.gz43_259994	F	M00055265A:G01	UC2-ColonMetLiver
4082	556447	2053.H02.gz43_259997	F	M00055268B:D12	UC2-ColonMetLiver
4083	555564	2053.E03.gz43_260010	F	M00055265A:G07	UC2-ColonMetLiver
4084	558360	2053.M03.gz43_260018	F	M00055275B:H06	UC2-ColonMetLiver
4085	558120	2053.B05.gz43_260039	F	M00055262B:A11	UC2-ColonMetLiver
4086	511276	2053.D05.gz43_260041	F	M00055264A:F03	UC2-ColonMetLiver
4087	550074	2053.F05.gz43_260043	F	M00055266B:C12	UC2-ColonMetLiver
4088	558867	2053.L05.gz43_260049	F	M00055274C:C06	UC2-ColonMetLiver
4089	555564	2053.N05.gz43_260051	F	M00055277D:A02	UC2-ColonMetLiver
4090	551798	2053.O05.gz43_260052	F	M00055279A:E03	UC2-ColonMetLiver
4091	556019	2053.D08.gz43_260089	F	M00055264B:E06	UC2-ColonMetLiver
4092	480960	2053.O09.gz43_260116	F	M00055279B:D02	UC2-ColonMetLiver
4093	478087	2053.C10.gz43_260120	F	M00055263C:D02	UC2-ColonMetLiver
4094	450507	2053.D10.gz43_260121	F	M00055264B:H12	UC2-ColonMetLiver
4095	512721	2053.E10.gz43_260122	F	M00055265C:A04	UC2-ColonMetLiver
4096	558052	2053.B11.gz43_260135	F	M00055262C:B08	UC2-ColonMetLiver
4097	550863	2053.A12.gz43_260150	F	M00055261B:G12	UC2-ColonMetLiver
4098	560957	2053.L12.gz43_260161	F	M00055274D:A11	UC2-ColonMetLiver
4099	560621	2053.M12.gz43_260162	F	M00055275D:E12	UC2-ColonMetLiver
4100	450242	2053.C13.gz43_260168	F	M00055263C:F10	UC2-ColonMetLiver
4101	446557	2053.B14.gz43_260183	F	M00055262C:F05	UC2-ColonMetLiver
4102	560678	2053.E14.gz43_260186	F	M00055265C:E01	UC2-ColonMetLiver
4103	557561	2053.F14.gz43_260187	F	M00055266D:C09	UC2-ColonMetLiver
4104	505858	2053.C15.gz43_260200	F	M00055263C:G09	UC2-ColonMetLiver
4105	557561	2053.E15.gz43_260202	F	M00055265C:F01	UC2-ColonMetLiver
4106	448450	2053.H15.gz43_260205	F	M00055268D:G09	UC2-ColonMetLiver
4107	475578	2053.I15.gz43_260206	F	M00055270D:B05	UC2-ColonMetLiver
4108	549052	2053.L15.gz43_260209	F	M00055274D:B10	UC2-ColonMetLiver
4109	562871	2053.M15.gz43_260210	F	M00055275D:H08	UC2-ColonMetLiver
4110	558263	2053.L18.gz43_260257	F	M00055274D:C10	UC2-ColonMetLiver
4111	560538	2053.O18.gz43_260260	F	M00055280A:C09	UC2-ColonMetLiver
4112	554000	2053.C19.gz43_260264	F	M00055263D:C03	UC2-ColonMetLiver
4113	128962	2053.A20.gz43_260278	F	M00055261D:D09	UC2-ColonMetLiver
4114	560278	2053.M20.gz43_260290	F	M00055276B:C09	UC2-ColonMetLiver
4115	420892	2053.F21.gz43_260299	F	M00055267A:D01	UC2-ColonMetLiver
4116	558513	2053.P21.gz43_260309	F	M00055281A:F08	UC2-ColonMetLiver



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4117	511847	2053.F22.gz43_260315	F	M00055267A:G11	UC2-ColonMetLiver
4118	481958	2053.P22.gz43_260325	F	M00055281B:D04	UC2-ColonMetLiver
4119	561666	2053.F24.gz43_260347	F	M00055267B:B06	UC2-ColonMetLiver
4120	553665	2053.I24.gz43_260350	F	M00055271B:C01	UC2-ColonMetLiver
4121	643513	1669.A01.gz43_260687	F	M00055651C:F07	UC2-NormColon
4122	641658	1669.J01.gz43_260696	F	M00055663A:H10	UC2-NormColon
4123	639752	1669.M01.gz43_260699	F	M00055667B:C08	UC2-NormColon
4124	518569	1669.P01.gz43_260702	F	M00055671A:H03	UC2-NormColon
4125	642068	1669.N02.gz43_260716	F	M00055668C:A04	UC2-NormColon
4126	639743	1669.O02.gz43_260717	F	M00055669D:B08	UC2-NormColon
4127	642230	1669.P03.gz43_260734	F	M00055671B:B02	UC2-NormColon
4128	447585	1669.I04.gz43_260743	F	M00055662B:F11	UC2-NormColon
4129	640078	1669.J04.gz43_260744	F	M00055663B:E02	UC2-NormColon
4130	647333	1669.B06.gz43_260768	F	M00055653B:C03	UC2-NormColon
4131	472226	1669.C06.gz43_260769	F	M00055654B:G09	UC2-NormColon
4132	455778	1669.H06.gz43_260774	F	M00055661B:E07	UC2-NormColon
4133	523875	1669.I07.gz43_260791	F	M00055662C:C11	UC2-NormColon
4134	658271	1669.J07.gz43_260792	F	M00055663C:D05	UC2-NormColon
4135	465104	1669.K07.gz43_260793	F	M00055665B:B10	UC2-NormColon
4136	648352	1669.O07.gz43_260797	F	M00055670A:B04	UC2-NormColon
4137	641469	1669.C08.gz43_260801	F	M00055654C:A05	UC2-NormColon
4138	450883	1669.E08.gz43_260803	F	M00055657A:B04	UC2-NormColon
4139	638971	1669.C09.gz43_260817	F	M00055654C:C10	UC2-NormColon
4140	641379	1669.I09.gz43_260823	F	M00055662C:D12	UC2-NormColon
4141	618998	1669.A10.gz43_260831	F	M00055652B:B11	UC2-NormColon
4142	644971	1669.B10.gz43_260832	F	M00055653B:G01	UC2-NormColon
4143	556488	1669.C10.gz43_260833	F	M00055654C:D03	UC2-NormColon
4144	452687	1669.G10.gz43_260837	F	M00055660A:A06	UC2-NormColon
4145	643909	1669.J10.gz43_260840	F	M00055663D:B05	UC2-NormColon
4146	646894	1669.M10.gz43_260843	F	M00055667C:F07	UC2-NormColon
4147	556750	1669.N10.gz43_260844	F	M00055668D:E11	UC2-NormColon
4148	640259	1669.B11.gz43_260848	F	M00055653B:G11	UC2-NormColon
4149	643804	1669.D11.gz43_260850	F	M00055656A:E09	UC2-NormColon
4150	97909	1669.F11.gz43_260852	F	M00055659A:A08	UC2-NormColon
4151	503275	1669.G11.gz43_260853	F	M00055660A:C05	UC2-NormColon
4152	640678	1669.L11.gz43_260858	F	M00055666B:E06	UC2-NormColon
4153	406734	1669.A12.gz43_260863	F	M00055652B:F12	UC2-NormColon
4154	643563	1669.G12.gz43_260869	F	M00055660A:C08	UC2-NormColon
4155	658447	1669.H12.gz43_260870	F	M00055661C:E11	UC2-NormColon
4156	446188	1669.I12.gz43_260871	F	M00055662C:H06	UC2-NormColon
4157	603857	1669.L12.gz43_260874	F	M00055666C:C11	UC2-NormColon
4158	561894	1669.M12.gz43_260875	F	M00055667D:B01	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4159	639596	1669.I15.gz43_260919	F	M00055662D:A09	UC2-NormColon
4160	589483	1669.G17.gz43_260949	F	M00055660B:H02	UC2-NormColon
4161	639665	1669.I17.gz43_260951	F	M00055662D:B07	UC2-NormColon
4162	641683	1669.O17.gz43_260957	F	M00055670D:F02	UC2-NormColon
4163	642111	1669.C18.gz43_260961	F	M00055655A:A09	UC2-NormColon
4164	640179	1669.K18.gz43_260969	F	M00055665D:F11	UC2-NormColon
4165	648352	1669.N18.gz43_260972	F	M00055669B:G02	UC2-NormColon
4166	640018	1669.I20.gz43_260999	F	M00055662D:E05	UC2-NormColon
4167	642332	1669.L20.gz43_261002	F	M00055667A:B12	UC2-NormColon
4168	639706	1669.F21.gz43_261012	F	M00055659C:B10	UC2-NormColon
4169	642411	1669.C22.gz43_261025	F	M00055655B:B08	UC2-NormColon
4170	641091	1669.I22.gz43_261031	F	M00055663A:B02	UC2-NormColon
4171	463312	1669.B23.gz43_261040	F	M00055653D:H02	UC2-NormColon
4172	456561	1669.L23.gz43_261050	F	M00055667A:H10	UC2-NormColon
4173	649631	1669.A24.gz43_261055	F	M00055653A:G08	UC2-NormColon
4174	639674	1669.F24.gz43_261060	F	M00055659C:D06	UC2-NormColon
4175	640261	1669.I24.gz43_261063	F	M00055663A:G04	UC2-NormColon
4176	640889	1670.N03.gz43_261116	F	M00055691B:E07	UC2-NormColon
4177	426366	1670.D05.gz43_261138	F	M00055676D:H07	UC2-NormColon
4178	643594	1670.L05.gz43_261146	F	M00055687C:F01	UC2-NormColon
4179	446675	1670.M05.gz43_261147	F	M00055689B:F04	UC2-NormColon
4180	640645	1670.H06.gz43_261158	F	M00055683B:D10	UC2-NormColon
4181	645909	1670.J06.gz43_261160	F	M00055685B:E12	UC2-NormColon
4182	551287	1670.K06.gz43_261161	F	M00055686B:D03	UC2-NormColon
4183	646638	1670.N06.gz43_261164	F	M00055691C:E02	UC2-NormColon
4184	639805	1670.B07.gz43_261168	F	M00055673D:C01	UC2-NormColon
4185	640092	1670.A08.gz43_261183	F	M00055672D:F06	UC2-NormColon
4186	634122	1670.M08.gz43_261195	F	M00055689C:B03	UC2-NormColon
4187	641618	1670.G09.gz43_261205	F	M00055682C:D06	UC2-NormColon
4188	641287	1670.L09.gz43_261210	F	M00055688A:A02	UC2-NormColon
4189	557625	1670.H10.gz43_261222	F	M00055683C:A03	UC2-NormColon
4190	599838	1670.I10.gz43_261223	F	M00055684B:D06	UC2-NormColon
4191	634122	1670.M10.gz43_261227	F	M00055689C:C03	UC2-NormColon
4192	641726	1670.K12.gz43_261257	F	M00055686D:E04	UC2-NormColon
4193	649921	1670.L12.gz43_261258	F	M00055688A:E04	UC2-NormColon
4194	645431	1670.P12.gz43_261262	F	M00055695D:E01	UC2-NormColon
4195	641728	1670.K13.gz43_261273	F	M00055686D:E10	UC2-NormColon
4196	502609	1670.N13.gz43_261276	F	M00055691D:E04	UC2-NormColon
4197	650673	1670.C14.gz43_261281	F	M00055675D:E04	UC2-NormColon
4198	644699	1670.H14.gz43_261286	F	M00055683C:D11	UC2-NormColon
4199	645146	1670.A16.gz43_261311	F	M00055673B:A04	UC2-NormColon
4200	647427	1670.E17.gz43_261331	F	M00055680B:H04	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4201	553921	1670.H17.gz43_261334	F	M00055683C:H11	UC2-NormColon
4202	639469	1670.A18.gz43_261343	F	M00055673B:B08	UC2-NormColon
4203	359500	1670.F18.gz43_261348	F	M00055681D:F11	UC2-NormColon
4204	649558	1670.J18.gz43_261352	F	M00055685D:B06	UC2-NormColon
4205	561920	1670.N18.gz43_261356	F	M00055692A:E05	UC2-NormColon
4206	446242	1670.C20.gz43_261377	F	M00055676B:D05	UC2-NormColon
4207	645968	1670.B21.gz43_261392	F	M00055674C:E05	UC2-NormColon
4208	637966	1670.F22.gz43_261412	F	M00055682A:B07	UC2-NormColon
4209	640826	1670.M22.gz43_261419	F	M00055691A:D08	UC2-NormColon
4210	642321	1670.D23.gz43_261426	F	M00055679B:E03	UC2-NormColon
4211	601137	1670.I23.gz43_261431	F	M00055685A:E10	UC2-NormColon
4212	416808	1670.E24.gz43_261443	F	M00055681A:F02	UC2-NormColon
4213	647856	1670.I24.gz43_261447	F	M00055685A:F02	UC2-NormColon
4214	554564	1670.K24.gz43_261449	F	M00055687C:B04	UC2-NormColon
4215	561422	1671.I07.gz43_261559	F	M00055711B:B08	UC2-NormColon
4216	642288	1671.P07.gz43_261566	F	M00055721B:D08	UC2-NormColon
4217	642062	1671.E08.gz43_261571	F	M00055704A:D09	UC2-NormColon
4218	463368	1671.K08.gz43_261577	F	M00055715A:D10	UC2-NormColon
4219	646028	1671.D09.gz43_261586	F	M00055702C:D01	UC2-NormColon
4220	478192	1671.M09.gz43_261595	F	M00055718A:F01	UC2-NormColon
4221	640947	1671.D10.gz43_261602	F	M00055702C:F11	UC2-NormColon
4222	463548	1671.G10.gz43_261605	F	M00055706B:H12	UC2-NormColon
4223	640282	1671.M10.gz43_261611	F	M00055718A:H05	UC2-NormColon
4224	41141	1671.B11.gz43_261616	F	M00055699C:D02	UC2-NormColon
4225	463368	1671.I11.gz43_261623	F	M00055711C:A07	UC2-NormColon
4226	558086	1671.J11.gz43_261624	F	M00055713C:F12	UC2-NormColon
4227	560546	1671.C12.gz43_261633	F	M00055701A:B04	UC2-NormColon
4228	551415	1671.E12.gz43_261635	F	M00055704B:C04	UC2-NormColon
4229	557710	1671.N12.gz43_261644	F	M00055719A:D11	UC2-NormColon
4230	649429	1671.G14.gz43_261669	F	M00055707A:B07	UC2-NormColon
4231	451401	1671.L14.gz43_261674	F	M00055717B:A03	UC2-NormColon
4232	642039	1671.C17.gz43_261713	F	M00055701B:C03	UC2-NormColon
4233	471268	1671.F17.gz43_261716	F	M00055705C:F12	UC2-NormColon
4234	417259	1671.H17.gz43_261718	F	M00055709D:G10	UC2-NormColon
4235	421826	1671.L17.gz43_261722	F	M00055717B:E04	UC2-NormColon
4236	465589	1671.M17.gz43_261723	F	M00055718B:H11	UC2-NormColon
4237	645505	1671.N17.gz43_261724	F	M00055719A:G04	UC2-NormColon
4238	510195	1671.N18.gz43_261740	F	M00055719A:G12	UC2-NormColon
4239	492094	1671.P18.gz43_261742	F	M00055722A:B05	UC2-NormColon
4240	453006	1671.G20.gz43_261765	F	M00055707A:F11	UC2-NormColon
4241	600115	1671.P21.gz43_261790	F	M00055722A:C04	UC2-NormColon
4242	641700	1671.H22.gz43_261798	F	M00055710B:E04	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4243	466265	1671.O22.gz43_261805	F	M00055721A:A07	UC2-NormColon
4244	553985	1671.B23.gz43_261808	F	M00055700B:E10	UC2-NormColon
4245	536415	1671.L23.gz43_261818	F	M00055717C:B07	UC2-NormColon
4246	640282	1671.N23.gz43_261820	F	M00055719C:A09	UC2-NormColon
4247	498194	1672.A01.gz43_261841	F	M00055722B:A01	UC2-NormColon
4248	641305	1672.E02.gz43_261861	F	M00055725A:F12	UC2-NormColon
4249	641070	1672.H02.gz43_261864	F	M00055727D:G01	UC2-NormColon
4250	556326	1672.B03.gz43_261874	F	M00055723A:B08	UC2-NormColon
4251	522497	1672.C03.gz43_261875	F	M00055723D:C04	UC2-NormColon
4252	557833	1672.E03.gz43_261877	F	M00055725A:G07	UC2-NormColon
4253	647688	1672.B04.gz43_261890	F	M00055723A:C04	UC2-NormColon
4254	416377	1672.M04.gz43_261901	F	M00055733D:H01	UC2-NormColon
4255	643897	1672.O04.gz43_261903	F	M00055736B:C08	UC2-NormColon
4256	645171	1672.A06.gz43_261921	F	M00055722B:G12	UC2-NormColon
4257	649106	1672.C06.gz43_261923	F	M00055723D:E05	UC2-NormColon
4258	454383	1672.K06.gz43_261931	F	M00055731C:F09	UC2-NormColon
4259	649360	1672.B07.gz43_261938	F	M00055723A:F04	UC2-NormColon
4260	639458	1672.K08.gz43_261963	F	M00055731C:H07	UC2-NormColon
4261	642078	1672.B11.gz43_262002	F	M00055723B:A09	UC2-NormColon
4262	642631	1672.L11.gz43_262012	F	M00055733A:G04	UC2-NormColon
4263	650303	1672.A12.gz43_262017	F	M00055722C:E11	UC2-NormColon
4264	284586	1672.C12.gz43_262019	F	M00055724A:C12	UC2-NormColon
4265	642535	1672.G12.gz43_262023	F	M00055727B:F10	UC2-NormColon
4266	642491	1672.A13.gz43_262033	F	M00055722C:F11	UC2-NormColon
4267	100821	1672.P13.gz43_262048	F	M00055738B:H11	UC2-NormColon
4268	641056	1672.A14.gz43_262049	F	M00055722D:A07	UC2-NormColon
4269	642197	1672.B14.gz43_262050	F	M00055723B:C03	UC2-NormColon
4270	801	1672.E14.gz43_262053	F	M00055725D:B02	UC2-NormColon
4271	449956	1672.N14.gz43_262062	F	M00055735C:G08	UC2-NormColon
4272	645018	1672.C15.gz43_262067	F	M00055724A:E03	UC2-NormColon
4273	640879	1672.K15.gz43_262075	F	M00055731D:F09	UC2-NormColon
4274	642263	1672.O15.gz43_262079	F	M00055736D:D11	UC2-NormColon
4275	647906	1672.P15.gz43_262080	F	M00055738C:C02	UC2-NormColon
4276	559776	1672.G16.gz43_262087	F	M00055727C:B02	UC2-NormColon
4277	647060	1672.H16.gz43_262088	F	M00055728B:G11	UC2-NormColon
4278	642315	1672.I16.gz43_262089	F	M00055729C:D11	UC2-NormColon
4279	504501	1672.L16.gz43_262092	F	M00055733B:F11	UC2-NormColon
4280	460967	1672.A17.gz43_262097	F	M00055722D:B10	UC2-NormColon
4281	504568	1672.C17.gz43_262099	F	M00055724A:G08	UC2-NormColon
4282	559828	1672.D17.gz43_262100	F	M00055724D:A02	UC2-NormColon
4283	455113	1672.H17.gz43_262104	F	M00055728C:B08	UC2-NormColon
4284	477064	1672.I17.gz43_262105	F	M00055729C:E02	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4285	1558	1672.J17.gz43_262106	F	M00055731A:G05	UC2-NormColon
4286	419443	1672.L17.gz43_262108	F	M00055733B:H05	UC2-NormColon
4287	546705	1672.I18.gz43_262121	F	M00055729D:A06	UC2-NormColon
4288	235397	1672.J18.gz43_262122	F	M00055731A:H07	UC2-NormColon
4289	651085	1672.K18.gz43_262123	F	M00055732A:B04	UC2-NormColon
4290	502826	1672.N18.gz43_262126	F	M00055735D:C01	UC2-NormColon
4291	544797	1672.A19.gz43_262129	F	M00055722D:E05	UC2-NormColon
4292	489426	1672.B19.gz43_262130	F	M00055723C:B02	UC2-NormColon
4293	452212	1672.E19.gz43_262133	F	M00055725D:F05	UC2-NormColon
4294	646609	1672.M19.gz43_262141	F	M00055734D:D01	UC2-NormColon
4295	556336	1672.N19.gz43_262142	F	M00055735D:E10	UC2-NormColon
4296	467822	1672.C20.gz43_262147	F	M00055724B:D04	UC2-NormColon
4297	650397	1672.L20.gz43_262156	F	M00055733C:H12	UC2-NormColon
4298	37862	1672.P20.gz43_262160	F	M00055738D:G08	UC2-NormColon
4299	644609	1672.I21.gz43_262169	F	M00055729D:F05	UC2-NormColon
4300	561968	1672.L21.gz43_262172	F	M00055733D:B11	UC2-NormColon
4301	550049	1672.P21.gz43_262176	F	M00055739A:B02	UC2-NormColon
4302	554708	1672.H22.gz43_262184	F	M00055728D:F02	UC2-NormColon
4303	608540	1672.P22.gz43_262192	F	M00055739A:B04	UC2-NormColon
4304	470769	1672.A23.gz43_262193	F	M00055722D:G12	UC2-NormColon
4305	642722	1672.C23.gz43_262195	F	M00055724B:G03	UC2-NormColon
4306	645151	1672.L23.gz43_262204	F	M00055733D:D04	UC2-NormColon
4307	648265	1672.N23.gz43_262206	F	M00055736A:B11	UC2-NormColon
4308	489249	1672.F24.gz43_262214	F	M00055726D:H12	UC2-NormColon
4309	644173	1682.H02.gz43_262248	F	M00055770A:G08	UC2-NormColon
4310	642417	1682.L02.gz43_262252	F	M00055774D:A05	UC2-NormColon
4311	553877	1682.M02.gz43_262253	F	M00055775C:B10	UC2-NormColon
4312	530238	1682.H03.gz43_262264	F	M00055770A:H11	UC2-NormColon
4313	553380	1682.L03.gz43_262268	F	M00055774D:B07	UC2-NormColon
4314	637387	1682.E04.gz43_262277	F	M00055766B:E11	UC2-NormColon
4315	634660	1682.F04.gz43_262278	F	M00055767A:D10	UC2-NormColon
4316	642791	1682.J04.gz43_262282	F	M00055772A:H08	UC2-NormColon
4317	446163	1682.K04.gz43_262283	F	M00055773C:C09	UC2-NormColon
4318	641056	1682.M04.gz43_262285	F	M00055775C:E10	UC2-NormColon
4319	550562	1682.B05.gz43_262290	F	M00055763B:D07	UC2-NormColon
4320	648320	1682.A06.gz43_262305	F	M00055761D:C03	UC2-NormColon
4321	446757	1682.H06.gz43_262312	F	M00055770B:D06	UC2-NormColon
4322	454540	1682.K06.gz43_262315	F	M00055773C:H12	UC2-NormColon
4323	458979	1682.L06.gz43_262316	F	M00055774D:E02	UC2-NormColon
4324	641174	1682.P06.gz43_262320	F	M00055780C:E02	UC2-NormColon
4325	642852	1682.E08.gz43_262341	F	M00055766B:H10	UC2-NormColon
4326	488680	1682.A09.gz43_262353	F	M00055761D:H08	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4327	27083	1682.K09.gz43_262363	F	M00055773D:G11	UC2-NormColon
4328	524470	1682.C10.gz43_262371	F	M00055765A:A04	UC2-NormColon
4329	463951	1682.J10.gz43_262378	F	M00055772C:E11	UC2-NormColon
4330	584179	1682.C11.gz43_262387	F	M00055765A:B02	UC2-NormColon
4331	642460	1682.D11.gz43_262388	F	M00055765D:E06	UC2-NormColon
4332	448944	1682.E11.gz43_262389	F	M00055766C:C11	UC2-NormColon
4333	642082	1682.F11.gz43_262390	F	M00055767B:D02	UC2-NormColon
4334	642095	1682.N11.gz43_262398	F	M00055778D:A03	UC2-NormColon
4335	562876	1682.H12.gz43_262408	F	M00055770C:H11	UC2-NormColon
4336	453079	1682.I12.gz43_262409	F	M00055771C:A11	UC2-NormColon
4337	101499	1682.L12.gz43_262412	F	M00055775A:G09	UC2-NormColon
4338	639829	1682.N12.gz43_262414	F	M00055778D:C03	UC2-NormColon
4339	642332	1682.P12.gz43_262416	F	M00055780D:D09	UC2-NormColon
4340	541499	1682.G13.gz43_262423	F	M00055768B:H12	UC2-NormColon
4341	509410	1682.I13.gz43_262425	F	M00055771C:D09	UC2-NormColon
4342	89082	1682.O13.gz43_262431	F	M00055780A:C04	UC2-NormColon
4343	453091	1682.P13.gz43_262432	F	M00055780D:F08	UC2-NormColon
4344	639981	1682.A14.gz43_262433	F	M00055762B:B11	UC2-NormColon
4345	642564	1682.B14.gz43_262434	F	M00055763C:G08	UC2-NormColon
4346	561558	1682.O14.gz43_262447	F	M00055780A:C06	UC2-NormColon
4347	562870	1682.B15.gz43_262450	F	M00055763D:B11	UC2-NormColon
4348	462742	1682.D15.gz43_262452	F	M00055766A:A01	UC2-NormColon
4349	451037	1682.E15.gz43_262453	F	M00055766C:G12	UC2-NormColon
4350	641563	1682.J15.gz43_262458	F	M00055772D:C10	UC2-NormColon
4351	643940	1682.A16.gz43_262465	F	M00055762C:B04	UC2-NormColon
4352	642204	1682.C16.gz43_262467	F	M00055765A:C11	UC2-NormColon
4353	517912	1682.J16.gz43_262474	F	M00055772D:D03	UC2-NormColon
4354	641576	1682.D17.gz43_262484	F	M00055766A:D08	UC2-NormColon
4355	642082	1682.F17.gz43_262486	F	M00055767D:A12	UC2-NormColon
4356	450211	1682.O17.gz43_262495	F	M00055780A:E11	UC2-NormColon
4357	621636	1682.B18.gz43_262498	F	M00055764A:F02	UC2-NormColon
4358	639232	1682.D18.gz43_262500	F	M00055766A:E08	UC2-NormColon
4359	450553	1682.J18.gz43_262506	F	M00055772D:F10	UC2-NormColon
4360	647940	1682.K18.gz43_262507	F	M00055774B:F07	UC2-NormColon
4361	461835	1682.M18.gz43_262509	F	M00055778A:F09	UC2-NormColon
4362	641496	1682.O18.gz43_262511	F	M00055780A:F07	UC2-NormColon
4363	464510	1682.H19.gz43_262520	F	M00055770D:E10	UC2-NormColon
4364	642564	1682.M19.gz43_262525	F	M00055778A:F12	UC2-NormColon
4365	629002	1682.C20.gz43_262531	F	M00055765A:G02	UC2-NormColon
4366	1093	1682.D20.gz43_262532	F	M00055766A:H03	UC2-NormColon
4367	50351	1682.E20.gz43_262533	F	M00055766D:D05	UC2-NormColon
4368	642417	1682.F20.gz43_262534	F	M00055767D:E07	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4369	466971	1682.J20.gz43_262538	F	M00055772D:H04	UC2-NormColon
4370	641185	1682.K20.gz43_262539	F	M00055774B:H01	UC2-NormColon
4371	644240	1682.L20.gz43_262540	F	M00055775B:G02	UC2-NormColon
4372	509027	1682.M20.gz43_262541	F	M00055778A:G02	UC2-NormColon
4373	546740	1682.F21.gz43_262550	F	M00055767D:F04	UC2-NormColon
4374	559662	1682.L21.gz43_262556	F	M00055775B:G04	UC2-NormColon
4375	388688	1682.B22.gz43_262562	F	M00055764B:F05	UC2-NormColon
4376	555140	1682.G22.gz43_262567	F	M00055768D:G02	UC2-NormColon
4377	640617	1682.K22.gz43_262571	F	M00055774C:D09	UC2-NormColon
4378	447224	1682.D23.gz43_262580	F	M00055766B:B01	UC2-NormColon
4379	644765	1682.B24.gz43_262594	F	M00055764C:C07	UC2-NormColon
4380	648996	1682.F24.gz43_262598	F	M00055768A:B05	UC2-NormColon
4381	642036	1682.I24.gz43_262601	F	M00055772A:C10	UC2-NormColon
4382	644914	1682.J24.gz43_262602	F	M00055773B:A07	UC2-NormColon
4383	458425	1682.M24.gz43_262605	F	M00055778B:E01	UC2-NormColon
4384	556476	1682.N24.gz43_262606	F	M00055779B:F06	UC2-NormColon
4385	672601	1683.E01.gz43_262613	F	M00055785D:C06	UC2-NormColon
4386	463290	1683.H01.gz43_262616	F	M00055789C:F10	UC2-NormColon
4387	675768	1683.D03.gz43_262644	F	M00055784C:H02	UC2-NormColon
4388	642146	1683.H03.gz43_262648	F	M00055789D:B04	UC2-NormColon
4389	648905	1683.F04.gz43_262662	F	M00055787B:F10	UC2-NormColon
4390	467306	1683.I04.gz43_262665	F	M00055790D:G10	UC2-NormColon
4391	497971	1683.C05.gz43_262675	F	M00055783D:B02	UC2-NormColon
4392	645508	1683.N05.gz43_262686	F	M00055795D:E09	UC2-NormColon
4393	644047	1683.O05.gz43_262687	F	M00055796B:G05	UC2-NormColon
4394	554117	1683.K06.gz43_262699	F	M00055793A:H09	UC2-NormColon
4395	641919	1683.K08.gz43_262731	F	M00055793B:B06	UC2-NormColon
4396	605761	1683.L08.gz43_262732	F	M00055794A:D08	UC2-NormColon
4397	549434	1683.D09.gz43_262740	F	M00055785A:H08	UC2-NormColon
4398	446595	1683.M09.gz43_262749	F	M00055795A:F09	UC2-NormColon
4399	643350	1683.F10.gz43_262758	F	M00055787C:D09	UC2-NormColon
4400	454485	1683.M10.gz43_262765	F	M00055795A:F12	UC2-NormColon
4401	647639	1683.O10.gz43_262767	F	M00055796C:E11	UC2-NormColon
4402	510545	1683.I11.gz43_262777	F	M00055791B:E02	UC2-NormColon
4403	77144	1683.N11.gz43_262782	F	M00055795D:H08	UC2-NormColon
4404	140909	1683.C12.gz43_262787	F	M00055784A:B07	UC2-NormColon
4405	650076	1683.D12.gz43_262788	F	M00055785B:B06	UC2-NormColon
4406	449836	1683.F12.gz43_262790	F	M00055787C:E12	UC2-NormColon
4407	642184	1683.B14.gz43_262818	F	M00055783A:C06	UC2-NormColon
4408	638962	1683.H14.gz43_262824	F	M00055790B:A08	UC2-NormColon
4409	641700	1683.M15.gz43_262845	F	M00055795B:F09	UC2-NormColon
4410	437580	1683.N15.gz43_262846	F	M00055796A:A08	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4411	456626	1683.C16.gz43_262851	F	M00055784A:D05	UC2-NormColon
4412	553979	1683.O16.gz43_262863	F	M00055796D:E06	UC2-NormColon
4413	640525	1683.O17.gz43_262879	F	M00055796D:E10	UC2-NormColon
4414	553546	1683.H18.gz43_262888	F	M00055790B:D05	UC2-NormColon
4415	643230	1683.A19.gz43_262897	F	M00055782B:C08	UC2-NormColon
4416	523590	1683.B20.gz43_262914	F	M00055783B:A04	UC2-NormColon
4417	388085	1683.M20.gz43_262925	F	M00055795C:B10	UC2-NormColon
4418	457396	1683.L21.gz43_262940	F	M00055794C:D10	UC2-NormColon
4419	417617	1683.O23.gz43_262975	F	M00055797B:A11	UC2-NormColon
4420	463821	1684.G01.gz43_262999	F	M00055804D:F02	UC2-NormColon
4421	448787	1684.M01.gz43_263005	F	M00055811C:A01	UC2-NormColon
4422	32812	1684.I03.gz43_263033	F	M00055807A:B10	UC2-NormColon
4423	418340	1684.A04.gz43_263041	F	M00055798B:D12	UC2-NormColon
4424	462249	1684.C04.gz43_263043	F	M00055800D:B03	UC2-NormColon
4425	642099	1684.P04.gz43_263056	F	M00055815C:B03	UC2-NormColon
4426	644915	1684.A05.gz43_263057	F	M00055798B:F02	UC2-NormColon
4427	640222	1684.G05.gz43_263063	F	M00055805A:A02	UC2-NormColon
4428	550370	1684.K05.gz43_263067	F	M00055809A:B10	UC2-NormColon
4429	645560	1684.A06.gz43_263073	F	M00055798B:G04	UC2-NormColon
4430	513238	1684.E06.gz43_263077	F	M00055803A:C06	UC2-NormColon
4431	650231	1684.M07.gz43_263101	F	M00055811D:C02	UC2-NormColon
4432	644314	1684.H08.gz43_263112	F	M00055806B:B10	UC2-NormColon
4433	650782	1684.J08.gz43_263114	F	M00055808B:A04	UC2-NormColon
4434	648221	1684.P08.gz43_263120	F	M00055815C:G05	UC2-NormColon
4435	554742	1684.M09.gz43_263133	F	M00055811D:C12	UC2-NormColon
4436	642962	1684.P09.gz43_263136	F	M00055815D:A11	UC2-NormColon
4437	455028	1684.A10.gz43_263137	F	M00055798D:A10	UC2-NormColon
4438	447015	1684.P10.gz43_263152	F	M00055815D:B02	UC2-NormColon
4439	642653	1684.E11.gz43_263157	F	M00055803A:G08	UC2-NormColon
4440	647336	1684.O11.gz43_263167	F	M00055814C:C07	UC2-NormColon
4441	549640	1684.P11.gz43_263168	F	M00055815D:B03	UC2-NormColon
4442	642198	1684.G12.gz43_263175	F	M00055805B:C08	UC2-NormColon
4443	520320	1684.I12.gz43_263177	F	M00055807B:F05	UC2-NormColon
4444	644147	1684.N12.gz43_263182	F	M00055813A:D10	UC2-NormColon
4445	530774	1684.E13.gz43_263189	F	M00055803B:A11	UC2-NormColon
4446	375814	1684.H14.gz43_263208	F	M00055806C:E09	UC2-NormColon
4447	446789	1684.I14.gz43_263209	F	M00055807B:G10	UC2-NormColon
4448	210839	1684.J14.gz43_263210	F	M00055808B:H07	UC2-NormColon
4449	490414	1684.B15.gz43_263218	F	M00055800A:F02	UC2-NormColon
4450	503491	1684.M15.gz43_263229	F	M00055812A:E01	UC2-NormColon
4451	486134	1684.D17.gz43_263252	F	M00055802B:H03	UC2-NormColon
4452	639441	1684.I17.gz43_263257	F	M00055807C:F05	UC2-NormColon



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4453	551683	1684.N17.gz43_263262	F	M00055813C:E03	UC2-NormColon
4454	649035	1684.P17.gz43_263264	F	M00055816A:C04	UC2-NormColon
4455	639194	1684.F18.gz43_263270	F	M00055804B:C02	UC2-NormColon
4456	454772	1684.K19.gz43_263291	F	M00055809C:E11	UC2-NormColon
4457	649995	1684.L19.gz43_263292	F	M00055810D:G04	UC2-NormColon
4458	466016	1684.M19.gz43_263293	F	M00055812B:F03	UC2-NormColon
4459	494271	1684.N19.gz43_263294	F	M00055813D:B12	UC2-NormColon
4460	460517	1684.J20.gz43_263306	F	M00055808D:C12	UC2-NormColon
4461	470602	1684.I21.gz43_263321	F	M00055807D:C04	UC2-NormColon
4462	640537	1684.B22.gz43_263330	F	M00055800C:E11	UC2-NormColon
4463	643991	1684.D22.gz43_263332	F	M00055802C:E12	UC2-NormColon
4464	564382	1684.C23.gz43_263347	F	M00055801D:E06	UC2-NormColon
4465	529325	1684.G23.gz43_263351	F	M00055805D:H01	UC2-NormColon
4466	455665	1684.L23.gz43_263356	F	M00055811B:A03	UC2-NormColon
4467	645700	1684.A24.gz43_263361	F	M00055799C:D09	UC2-NormColon
4468	520320	1684.J24.gz43_263370	F	M00055808D:F09	UC2-NormColon
4469	648752	1684.M24.gz43_263373	F	M00055812C:B07	UC2-NormColon
4470	642850	1684.O24.gz43_263375	F	M00055815A:H12	UC2-NormColon
4471	556896	1970.H01.gz43_263397	F	M00054702A:C06	UC2-ColonMetLiver
4472	549238	1970.I01.gz43_263398	F	M00054703D:E07	UC2-ColonMetLiver
4473	551941	1970.M01.gz43_263402	F	M00054710D:A02	UC2-ColonMetLiver
4474	552055	1970.G02.gz43_263412	F	M00054699D:A12	UC2-ColonMetLiver
4475	483141	1970.H02.gz43_263413	F	M00054702A:F03	UC2-ColonMetLiver
4476	561434	1970.I02.gz43_263414	F	M00054703D:F04	UC2-ColonMetLiver
4477	453708	1970.K02.gz43_263416	F	M00054707B:B08	UC2-ColonMetLiver
4478	557935	1970.A03.gz43_263422	F	M00054689C:B11	UC2-ColonMetLiver
4479	509202	1970.H03.gz43_263429	F	M00054702A:H03	UC2-ColonMetLiver
4480	549388	1970.B04.gz43_263439	F	M00054690D:G03	UC2-ColonMetLiver
4481	551243	1970.C05.gz43_263456	F	M00054693A:C09	UC2-ColonMetLiver
4482	549557	1970.N05.gz43_263467	F	M00054712C:C07	UC2-ColonMetLiver
4483	551527	1970.A06.gz43_263470	F	M00054689D:E12	UC2-ColonMetLiver
4484	553128	1970.E06.gz43_263474	F	M00054696B:H11	UC2-ColonMetLiver
4485	549151	1970.K06.gz43_263480	F	M00054707C:D02	UC2-ColonMetLiver
4486	32021	1970.O06.gz43_263484	F	M00054714B:F05	UC2-ColonMetLiver
4487	552598	1970.P07.gz43_263501	F	M00054715D:E11	UC2-ColonMetLiver
4488	552051	1970.D08.gz43_263505	F	M00054695A:A12	UC2-ColonMetLiver
4489	491827	1970.J09.gz43_263527	F	M00054706A:G10	UC2-ColonMetLiver
4490	552625	1970.O09.gz43_263532	F	M00054714C:E01	UC2-ColonMetLiver
4491	552073	1970.M11.gz43_263562	F	M00054711C:A08	UC2-ColonMetLiver
4492	552649	1970.E12.gz43_263570	F	M00054697A:E03	UC2-ColonMetLiver
4493	389201	1970.H12.gz43_263573	F	M00054702D:E07	UC2-ColonMetLiver
4494	552682	1970.I12.gz43_263574	F	M00054704D:F02	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4495	552686	1970.K12.gz43_263576	F	M00054708A:F11	UC2-ColonMetLiver
4496	559389	1970.A14.gz43_263598	F	M00054690B:B02	UC2-ColonMetLiver
4497	562216	1970.E14.gz43_263602	F	M00054697A:G06	UC2-ColonMetLiver
4498	452392	1970.H14.gz43_263605	F	M00054702D:F05	UC2-ColonMetLiver
4499	552314	1970.I14.gz43_263606	F	M00054705B:C08	UC2-ColonMetLiver
4500	584499	1970.F15.gz43_263619	F	M00054699A:G01	UC2-ColonMetLiver
4501	552418	1970.A16.gz43_263630	F	M00054690B:D10	UC2-ColonMetLiver
4502	551996	1970.F16.gz43_263635	F	M00054699B:A05	UC2-ColonMetLiver
4503	549945	1970.H16.gz43_263637	F	M00054702D:H10	UC2-ColonMetLiver
4504	527679	1970.I16.gz43_263638	F	M00054705B:D02	UC2-ColonMetLiver
4505	391511	1970.K16.gz43_263640	F	M00054708B:F04	UC2-ColonMetLiver
4506	490393	1970.P16.gz43_263645	F	M00054716B:D06	UC2-ColonMetLiver
4507	552197	1970.L17.gz43_263657	F	M00054710B:B10	UC2-ColonMetLiver
4508	550975	1970.O17.gz43_263660	F	M00054715A:G02	UC2-ColonMetLiver
4509	498454	1970.I18.gz43_263670	F	M00054705B:E04	UC2-ColonMetLiver
4510	553938	1970.N18.gz43_263675	F	M00054713C:D07	UC2-ColonMetLiver
4511	448332	1970.C19.gz43_263680	F	M00054693D:A08	UC2-ColonMetLiver
4512	550053	1970.J19.gz43_263687	F	M00054706C:B12	UC2-ColonMetLiver
4513	550330	1970.B20.gz43_263695	F	M00054692B:C06	UC2-ColonMetLiver
4514	450755	1970.C20.gz43_263696	F	M00054693D:C04	UC2-ColonMetLiver
4515	420686	1970.B21.gz43_263711	F	M00054692B:D01	UC2-ColonMetLiver
4516	552581	1970.E21.gz43_263714	F	M00054697C:E11	UC2-ColonMetLiver
4517	551995	1970.F21.gz43_263715	F	M00054699C:A04	UC2-ColonMetLiver
4518	521552	1970.H22.gz43_263733	F	M00054703C:F01	UC2-ColonMetLiver
4519	553358	1970.J22.gz43_263735	F	M00054706D:B03	UC2-ColonMetLiver
4520	558768	1970.L22.gz43_263737	F	M00054710C:A12	UC2-ColonMetLiver
4521	42994	1970.B23.gz43_263743	F	M00054692C:B02	UC2-ColonMetLiver
4522	555255	1970.G23.gz43_263748	F	M00054701D:H05	UC2-ColonMetLiver
4523	451032	1970.O23.gz43_263756	F	M00054715C:D05	UC2-ColonMetLiver
4524	554477	1970.I24.gz43_263766	F	M00054705C:D11	UC2-ColonMetLiver
4525	560317	1970.K24.gz43_263768	F	M00054709A:A10	UC2-ColonMetLiver
4526	554900	1993.J01.gz43_263783	F	M00054863D:H05	UC2-ColonMetLiver
4527	560254	1993.L01.gz43_263785	F	M00054866B:C01	UC2-ColonMetLiver
4528	555740	1993.E02.gz43_263794	F	M00054857C:G09	UC2-ColonMetLiver
4529	551212	1993.F02.gz43_263795	F	M00054858D:C04	UC2-ColonMetLiver
4530	554456	1993.G03.gz43_263812	F	M00054859D:E09	UC2-ColonMetLiver
4531	493303	1993.M03.gz43_263818	F	M00054867B:D02	UC2-ColonMetLiver
4532	522648	1993.P03.gz43_263821	F	M00054870C:C05	UC2-ColonMetLiver
4533	559885	1993.A04.gz43_263822	F	M00054852C:G03	UC2-ColonMetLiver
4534	554257	1993.H04.gz43_263829	F	M00054860D:D01	UC2-ColonMetLiver
4535	554524	1993.B05.gz43_263839	F	M00054854A:H06	UC2-ColonMetLiver
4536	554672	1993.C05.gz43_263840	F	M00054855B:E04	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4537	560714	1993.D05.gz43_263841	F	M00054856D:E11	UC2-ColonMetLiver
4538	557852	1993.G05.gz43_263844	F	M00054859D:G04	UC2-ColonMetLiver
4539	553295	1993.J05.gz43_263847	F	M00054864B:B02	UC2-ColonMetLiver
4540	559027	1993.N06.gz43_263867	F	M00054868C:G11	UC2-ColonMetLiver
4541	548861	1993.B07.gz43_263871	F	M00054854B:C04	UC2-ColonMetLiver
4542	554500	1993.E07.gz43_263874	F	M00054857D:E12	UC2-ColonMetLiver
4543	522507	1993.I07.gz43_263878	F	M00054862C:D05	UC2-ColonMetLiver
4544	501534	1993.J08.gz43_263895	F	M00054864B:D08	UC2-ColonMetLiver
4545	556715	1993.A09.gz43_263902	F	M00054852D:D09	UC2-ColonMetLiver
4546	496897	1993.C09.gz43_263904	F	M00054855C:B06	UC2-ColonMetLiver
4547	554084	1993.D09.gz43_263905	F	M00054857A:B11	UC2-ColonMetLiver
4548	554497	1993.E10.gz43_263922	F	M00054858A:B05	UC2-ColonMetLiver
4549	555968	1993.F10.gz43_263923	F	M00054859A:D10	UC2-ColonMetLiver
4550	43642	1993.K10.gz43_263928	F	M00054865B:H04	UC2-ColonMetLiver
4551	595506	1993.L10.gz43_263929	F	M00054866C:G07	UC2-ColonMetLiver
4552	594434	1993.O10.gz43_263932	F	M00054869D:F02	UC2-ColonMetLiver
4553	555702	1993.P10.gz43_263933	F	M00054870D:G08	UC2-ColonMetLiver
4554	556132	1993.A11.gz43_263934	F	M00054853A:A10	UC2-ColonMetLiver
4555	555667	1993.F11.gz43_263939	F	M00054859A:E02	UC2-ColonMetLiver
4556	519109	1993.J11.gz43_263943	F	M00054864C:A01	UC2-ColonMetLiver
4557	450829	1993.B12.gz43_263951	F	M00054854C:H02	UC2-ColonMetLiver
4558	463513	1993.M13.gz43_263978	F	M00054867D:H03	UC2-ColonMetLiver
4559	552396	1993.N13.gz43_263979	F	M00054869A:A09	UC2-ColonMetLiver
4560	557077	1993.C14.gz43_263984	F	M00054855D:G12	UC2-ColonMetLiver
4561	554756	1993.D14.gz43_263985	F	M00054857A:G09	UC2-ColonMetLiver
4562	482306	1993.E14.gz43_263986	F	M00054858A:D06	UC2-ColonMetLiver
4563	560259	1993.H14.gz43_263989	F	M00054861B:H08	UC2-ColonMetLiver
4564	402742	1993.L14.gz43_263993	F	M00054866D:C03	UC2-ColonMetLiver
4565	390017	1993.P14.gz43_263997	F	M00054871A:C04	UC2-ColonMetLiver
4566	554989	1993.D15.gz43_264001	F	M00054857A:G12	UC2-ColonMetLiver
4567	550714	1993.E15.gz43_264002	F	M00054858A:D08	UC2-ColonMetLiver
4568	562962	1993.I15.gz43_264006	F	M00054863A:A11	UC2-ColonMetLiver
4569	394567	1993.K16.gz43_264024	F	M00054865D:F05	UC2-ColonMetLiver
4570	457825	1993.N17.gz43_264043	F	M00054869A:D03	UC2-ColonMetLiver
4571	553072	1993.O17.gz43_264044	F	M00054870B:A12	UC2-ColonMetLiver
4572	522703	1993.A18.gz43_264046	F	M00054853B:E07	UC2-ColonMetLiver
4573	451491	1993.E18.gz43_264050	F	M00054858B:A10	UC2-ColonMetLiver
4574	551811	1993.H18.gz43_264053	F	M00054861C:E10	UC2-ColonMetLiver
4575	599433	1993.A19.gz43_264062	F	M00054853B:E10	UC2-ColonMetLiver
4576	593343	1993.D19.gz43_264065	F	M00054857B:D08	UC2-ColonMetLiver
4577	554613	1993.C20.gz43_264080	F	M00054856A:F08	UC2-ColonMetLiver
4578	497365	1993.G21.gz43_264100	F	M00054860C:E04	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4579	555553	1993.O21.gz43_264108	F	M00054870B:G12	UC2-ColonMetLiver
4580	481641	1993.P21.gz43_264109	F	M00054871A:H07	UC2-ColonMetLiver
4581	557974	1993.M23.gz43_264138	F	M00054868B:A05	UC2-ColonMetLiver
4582	557719	1993.F24.gz43_264147	F	M00054859D:D02	UC2-ColonMetLiver
4583	551591	1993.L24.gz43_264153	F	M00054867A:G01	UC2-ColonMetLiver
4584	553586	1993.P24.gz43_264157	F	M00054871B:E10	UC2-ColonMetLiver
4585	553983	2018.J01.gz43_264167	F	M00055049B:F05	UC2-ColonMetLiver
4586	557939	2018.N01.gz43_264171	F	M00055053D:G04	UC2-ColonMetLiver
4587	549858	2018.P01.gz43_264173	F	M00055056C:A05	UC2-ColonMetLiver
4588	561838	2018.F02.gz43_264179	F	M00055045D:F10	UC2-ColonMetLiver
4589	561438	2018.A03.gz43_264190	F	M00055039A:G06	UC2-ColonMetLiver
4590	447555	2018.N03.gz43_264203	F	M00055054A:A10	UC2-ColonMetLiver
4591	556490	2018.I04.gz43_264214	F	M00055048C:C06	UC2-ColonMetLiver
4592	554372	2018.L04.gz43_264217	F	M00055051C:F10	UC2-ColonMetLiver
4593	557504	2018.P04.gz43_264221	F	M00055056C:C05	UC2-ColonMetLiver
4594	555340	2018.B05.gz43_264223	F	M00055041A:C02	UC2-ColonMetLiver
4595	540000	2018.L05.gz43_264233	F	M00055051D:D12	UC2-ColonMetLiver
4596	528775	2018.O05.gz43_264236	F	M00055055B:H11	UC2-ColonMetLiver
4597	553012	2018.P05.gz43_264237	F	M00055056C:D07	UC2-ColonMetLiver
4598	386940	2018.H06.gz43_264245	F	M00055047C:D11	UC2-ColonMetLiver
4599	559775	2018.K06.gz43_264248	F	M00055050D:C01	UC2-ColonMetLiver
4600	493261	2018.M06.gz43_264250	F	M00055052D:G12	UC2-ColonMetLiver
4601	555660	2018.A07.gz43_264254	F	M00055039B:E02	UC2-ColonMetLiver
4602	561901	2018.C07.gz43_264256	F	M00055042A:D09	UC2-ColonMetLiver
4603	554936	2018.H07.gz43_264261	F	M00055047C:F07	UC2-ColonMetLiver
4604	555010	2018.J07.gz43_264263	F	M00055049C:H12	UC2-ColonMetLiver
4605	560801	2018.L07.gz43_264265	F	M00055051D:F01	UC2-ColonMetLiver
4606	555993	2018.A08.gz43_264270	F	M00055039B:G11	UC2-ColonMetLiver
4607	465207	2018.H08.gz43_264277	F	M00055047C:F08	UC2-ColonMetLiver
4608	419153	2018.I08.gz43_264278	F	M00055048D:D08	UC2-ColonMetLiver
4609	562808	2018.P08.gz43_264285	F	M00055056C:F04	UC2-ColonMetLiver
4610	601365	2018.A09.gz43_264286	F	M00055039B:H10	UC2-ColonMetLiver
4611	375380	2018.F09.gz43_264291	F	M00055046B:C07	UC2-ColonMetLiver
4612	561216	2018.J09.gz43_264295	F	M00055049D:D09	UC2-ColonMetLiver
4613	498629	2018.O09.gz43_264300	F	M00055055C:C09	UC2-ColonMetLiver
4614	555524	2018.B10.gz43_264303	F	M00055041B:D11	UC2-ColonMetLiver
4615	549008	2018.C10.gz43_264304	F	M00055042B:B09	UC2-ColonMetLiver
4616	555771	2018.E10.gz43_264306	F	M00055045A:F03	UC2-ColonMetLiver
4617	515115	2018.O10.gz43_264316	F	M00055055C:D02	UC2-ColonMetLiver
4618	529733	2018.A11.gz43_264318	F	M00055039C:B05	UC2-ColonMetLiver
4619	553850	2018.E11.gz43_264322	F	M00055045A:F12	UC2-ColonMetLiver
4620	557735	2018.G11.gz43_264324	F	M00055047A:E07	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4621	555798	2018.H11.gz43_264325	F	M00055047D:C12	UC2-ColonMetLiver
4622	553108	2018.M11.gz43_264330	F	M00055053B:A02	UC2-ColonMetLiver
4623	555708	2018.C12.gz43_264336	F	M00055042B:E02	UC2-ColonMetLiver
4624	559699	2018.E12.gz43_264338	F	M00055045B:A04	UC2-ColonMetLiver
4625	551068	2018.K12.gz43_264344	F	M00055051A:C09	UC2-ColonMetLiver
4626	559246	2018.L12.gz43_264345	F	M00055052A:F07	UC2-ColonMetLiver
4627	557401	2018.P12.gz43_264349	F	M00055056D:B06	UC2-ColonMetLiver
4628	557525	2018.M13.gz43_264362	F	M00055053B:C02	UC2-ColonMetLiver
4629	8997	2018.N13.gz43_264363	F	M00055054B:E10	UC2-ColonMetLiver
4630	560720	2018.E14.gz43_264370	F	M00055045B:C08	UC2-ColonMetLiver
4631	558120	2018.G14.gz43_264372	F	M00055047A:H05	UC2-ColonMetLiver
4632	349744	2018.I14.gz43_264374	F	M00055048D:H04	UC2-ColonMetLiver
4633	561259	2018.A15.gz43_264382	F	M00055039D:D07	UC2-ColonMetLiver
4634	557326	2018.G15.gz43_264388	F	M00055047B:A10	UC2-ColonMetLiver
4635	449437	2018.J15.gz43_264391	F	M00055050A:D11	UC2-ColonMetLiver
4636	555340	2018.K15.gz43_264392	F	M00055051A:G09	UC2-ColonMetLiver
4637	555172	2018.C16.gz43_264400	F	M00055042C:B05	UC2-ColonMetLiver
4638	289316	2018.G16.gz43_264404	F	M00055047B:B03	UC2-ColonMetLiver
4639	557279	2018.H16.gz43_264405	F	M00055048A:A04	UC2-ColonMetLiver
4640	556169	2018.J16.gz43_264407	F	M00055050A:H08	UC2-ColonMetLiver
4641	551897	2018.K16.gz43_264408	F	M00055051A:H10	UC2-ColonMetLiver
4642	556391	2018.P16.gz43_264413	F	M00055056D:H12	UC2-ColonMetLiver
4643	562949	2018.D17.gz43_264417	F	M00055044A:A08	UC2-ColonMetLiver
4644	551371	2018.L17.gz43_264425	F	M00055052B:E03	UC2-ColonMetLiver
4645	562292	2018.M17.gz43_264426	F	M00055053C:B03	UC2-ColonMetLiver
4646	555082	2018.N17.gz43_264427	F	M00055054B:G12	UC2-ColonMetLiver
4647	562272	2018.P17.gz43_264429	F	M00055057A:A04	UC2-ColonMetLiver
4648	555883	2018.A18.gz43_264430	F	M00055040A:F01	UC2-ColonMetLiver
4649	558389	2018.F18.gz43_264435	F	M00055046C:C05	UC2-ColonMetLiver
4650	463341	2018.O18.gz43_264444	F	M00055056A:H12	UC2-ColonMetLiver
4651	553002	2018.P18.gz43_264445	F	M00055057A:A05	UC2-ColonMetLiver
4652	224812	2018.E19.gz43_264450	F	M00055045C:H05	UC2-ColonMetLiver
4653	206098	2018.J19.gz43_264455	F	M00055050B:E11	UC2-ColonMetLiver
4654	453893	2018.H20.gz43_264469	F	M00055048A:F04	UC2-ColonMetLiver
4655	557308	2018.N21.gz43_264491	F	M00055054D:A02	UC2-ColonMetLiver
4656	470617	2018.B22.gz43_264495	F	M00055041C:H12	UC2-ColonMetLiver
4657	555057	2018.N22.gz43_264507	F	M00055054D:E12	UC2-ColonMetLiver
4658	447815	2018.A23.gz43_264510	F	M00055040C:G08	UC2-ColonMetLiver
4659	561963	2018.N24.gz43_264539	F	M00055055A:B03	UC2-ColonMetLiver
4660	551544	2018.P24.gz43_264541	F	M00055057B:B01	UC2-ColonMetLiver
4661	555213	2018.D07.gz43_264641	F	M00055043B:B01	UC2-ColonMetLiver
4662	555010	2018.J07.gz43_264647	F	M00055049C:H12	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4663	505451	2018.P07.gz43_264653	F	M00055056C:E10	UC2-ColonMetLiver
4664	555993	2018.A08.gz43_264654	F	M00055039B:G11	UC2-ColonMetLiver
4665	465207	2018.H08.gz43_264661	F	M00055047C:F08	UC2-ColonMetLiver
4666	557834	2018.K08.gz43_264664	F	M00055050D:F04	UC2-ColonMetLiver
4667	557882	2018.L08.gz43_264665	F	M00055051D:G01	UC2-ColonMetLiver
4668	551711	2018.B09.gz43_264671	F	M00055041B:C10	UC2-ColonMetLiver
4669	555524	2018.B10.gz43_264687	F	M00055041B:D11	UC2-ColonMetLiver
4670	446739	2018.J10.gz43_264695	F	M00055049D:D10	UC2-ColonMetLiver
4671	385531	2018.P10.gz43_264701	F	M00055056C:H07	UC2-ColonMetLiver
4672	559052	2018.F11.gz43_264707	F	M00055046B:D02	UC2-ColonMetLiver
4673	553108	2018.M11.gz43_264714	F	M00055053B:A02	UC2-ColonMetLiver
4674	397338	2018.A12.gz43_264718	F	M00055039C:D11	UC2-ColonMetLiver
4675	559699	2018.E12.gz43_264722	F	M00055045B:A04	UC2-ColonMetLiver
4676	553975	2018.O12.gz43_264732	F	M00055055C:E08	UC2-ColonMetLiver
4677	561994	2018.B13.gz43_264735	F	M00055041B:F04	UC2-ColonMetLiver
4678	448098	2018.C13.gz43_264736	F	M00055042B:E05	UC2-ColonMetLiver
4679	558254	2018.D13.gz43_264737	F	M00055043D:D10	UC2-ColonMetLiver
4680	557420	2018.F13.gz43_264739	F	M00055046B:E08	UC2-ColonMetLiver
4681	558007	2018.G13.gz43_264740	F	M00055047A:H04	UC2-ColonMetLiver
4682	557525	2018.M13.gz43_264746	F	M00055053B:C02	UC2-ColonMetLiver
4683	450765	2018.C14.gz43_264752	F	M00055042B:E08	UC2-ColonMetLiver
4684	247	2018.D14.gz43_264753	F	M00055043D:F07	UC2-ColonMetLiver
4685	560720	2018.E14.gz43_264754	F	M00055045B:C08	UC2-ColonMetLiver
4686	491799	2018.F14.gz43_264755	F	M00055046B:F06	UC2-ColonMetLiver
4687	558120	2018.G14.gz43_264756	F	M00055047A:H05	UC2-ColonMetLiver
4688	432970	2018.K14.gz43_264760	F	M00055051A:E11	UC2-ColonMetLiver
4689	561259	2018.A15.gz43_264766	F	M00055039D:D07	UC2-ColonMetLiver
4690	551630	2018.O15.gz43_264780	F	M00055055D:D11	UC2-ColonMetLiver
4691	461	2018.M16.gz43_264794	F	M00055053C:A12	UC2-ColonMetLiver
4692	555399	2018.A17.gz43_264798	F	M00055040A:C02	UC2-ColonMetLiver
4693	554149	2018.B17.gz43_264799	F	M00055041C:C10	UC2-ColonMetLiver
4694	553603	2018.G17.gz43_264804	F	M00055047B:B10	UC2-ColonMetLiver
4695	552641	2018.K17.gz43_264808	F	M00055051B:B08	UC2-ColonMetLiver
4696	562292	2018.M17.gz43_264810	F	M00055053C:B03	UC2-ColonMetLiver
4697	562272	2018.P17.gz43_264813	F	M00055057A:A04	UC2-ColonMetLiver
4698	450755	2018.D18.gz43_264817	F	M00055044A:C02	UC2-ColonMetLiver
4699	555892	2018.E18.gz43_264818	F	M00055045C:F09	UC2-ColonMetLiver
4700	551793	2018.G18.gz43_264820	F	M00055047B:C03	UC2-ColonMetLiver
4701	553002	2018.P18.gz43_264829	F	M00055057A:A05	UC2-ColonMetLiver
4702	487182	2018.I19.gz43_264838	F	M00055049A:F10	UC2-ColonMetLiver
4703	206098	2018.J19.gz43_264839	F	M00055050B:E11	UC2-ColonMetLiver
4704	557572	2018.K19.gz43_264840	F	M00055051B:D07	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4705	551334	2018.M19.gz43_264842	F	M00055053C:F06	UC2-ColonMetLiver
4706	561046	2018.I20.gz43_264854	F	M00055049A:G03	UC2-ColonMetLiver
4707	454664	2018.L20.gz43_264857	F	M00055052C:B12	UC2-ColonMetLiver
4708	551616	2018.N20.gz43_264859	F	M00055054C:G10	UC2-ColonMetLiver
4709	559294	2018.P20.gz43_264861	F	M00055057A:D10	UC2-ColonMetLiver
4710	548935	2018.C21.gz43_264864	F	M00055042D:G03	UC2-ColonMetLiver
4711	488970	2018.F21.gz43_264867	F	M00055046C:E07	UC2-ColonMetLiver
4712	555751	2018.A22.gz43_264878	F	M00055040B:F02	UC2-ColonMetLiver
4713	423588	2018.C22.gz43_264880	F	M00055042D:H02	UC2-ColonMetLiver
4714	551578	2018.E22.gz43_264882	F	M00055045D:A07	UC2-ColonMetLiver
4715	556171	2018.G22.gz43_264884	F	M00055047B:G06	UC2-ColonMetLiver
4716	451172	2018.P22.gz43_264893	F	M00055057A:F10	UC2-ColonMetLiver
4717	555250	2018.B23.gz43_264895	F	M00055041D:B07	UC2-ColonMetLiver
4718	476268	2018.G23.gz43_264900	F	M00055047B:G10	UC2-ColonMetLiver
4719	553349	2018.K23.gz43_264904	F	M00055051C:B05	UC2-ColonMetLiver
4720	551561	2018.O23.gz43_264908	F	M00055056B:G01	UC2-ColonMetLiver
4721	555173	2018.C24.gz43_264912	F	M00055043A:B06	UC2-ColonMetLiver
4722	557382	2018.L24.gz43_264921	F	M00055052D:B05	UC2-ColonMetLiver
4723	555616	2020.H01.gz43_264933	F	M00055081A:E08	UC2-ColonMetLiver
4724	549607	2020.J01.gz43_264935	F	M00055083B:E05	UC2-ColonMetLiver
4725	492893	2020.L01.gz43_264937	F	M00055086A:B10	UC2-ColonMetLiver
4726	556471	2020.E02.gz43_264946	F	M00055077D:B01	UC2-ColonMetLiver
4727	556542	2020.L02.gz43_264953	F	M00055086A:C09	UC2-ColonMetLiver
4728	551283	2020.N02.gz43_264955	F	M00055088D:A01	UC2-ColonMetLiver
4729	558720	2020.C03.gz43_264960	F	M00055076A:C06	UC2-ColonMetLiver
4730	555512	2020.A04.gz43_264974	F	M00055073D:F06	UC2-ColonMetLiver
4731	549129	2020.D04.gz43_264977	F	M00055077A:B07	UC2-ColonMetLiver
4732	556497	2020.J04.gz43_264983	F	M00055083C:C05	UC2-ColonMetLiver
4733	561422	2020.N04.gz43_264987	F	M00055088D:B08	UC2-ColonMetLiver
4734	556408	2020.O04.gz43_264988	F	M00055090C:B03	UC2-ColonMetLiver
4735	556635	2020.B05.gz43_264991	F	M00055075A:C09	UC2-ColonMetLiver
4736	555368	2020.C05.gz43_264992	F	M00055076A:D11	UC2-ColonMetLiver
4737	495408	2020.F06.gz43_265011	F	M00055078D:G04	UC2-ColonMetLiver
4738	552361	2020.H06.gz43_265013	F	M00055081B:E10	UC2-ColonMetLiver
4739	556446	2020.K06.gz43_265016	F	M00055084D:B01	UC2-ColonMetLiver
4740	557476	2020.L06.gz43_265017	F	M00055086B:D10	UC2-ColonMetLiver
4741	556559	2020.O06.gz43_265020	F	M00055090C:C12	UC2-ColonMetLiver
4742	548943	2020.K07.gz43_265032	F	M00055084D:C09	UC2-ColonMetLiver
4743	555126	2020.P07.gz43_265037	F	M00055091B:A07	UC2-ColonMetLiver
4744	142614	2020.E08.gz43_265042	F	M00055078A:C05	UC2-ColonMetLiver
4745	453756	2020.M08.gz43_265050	F	M00055087D:D08	UC2-ColonMetLiver
4746	556040	2020.G09.gz43_265060	F	M00055080B:G10	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4747	557454	2020.N09.gz43_265067	F	M00055089A:H06	UC2-ColonMetLiver
4748	452822	2020.C11.gz43_265088	F	M00055076B:E08	UC2-ColonMetLiver
4749	464905	2020.E11.gz43_265090	F	M00055078A:E10	UC2-ColonMetLiver
4750	509505	2020.F11.gz43_265091	F	M00055079A:H05	UC2-ColonMetLiver
4751	555061	2020.H11.gz43_265093	F	M00055081C:A12	UC2-ColonMetLiver
4752	556668	2020.J11.gz43_265095	F	M00055083D:D08	UC2-ColonMetLiver
4753	549810	2020.C12.gz43_265104	F	M00055076B:F04	UC2-ColonMetLiver
4754	557760	2020.E12.gz43_265106	F	M00055078A:F01	UC2-ColonMetLiver
4755	554084	2020.N12.gz43_265115	F	M00055089B:C01	UC2-ColonMetLiver
4756	16092	2020.P12.gz43_265117	F	M00055091C:B04	UC2-ColonMetLiver
4757	551342	2020.L13.gz43_265129	F	M00055086D:C07	UC2-ColonMetLiver
4758	455820	2020.A14.gz43_265134	F	M00055074B:E05	UC2-ColonMetLiver
4759	555710	2020.I14.gz43_265142	F	M00055082D:E08	UC2-ColonMetLiver
4760	497086	2020.O14.gz43_265148	F	M00055090D:E03	UC2-ColonMetLiver
4761	561489	2020.E15.gz43_265154	F	M00055078B:F05	UC2-ColonMetLiver
4762	558616	2020.F15.gz43_265155	F	M00055079C:G06	UC2-ColonMetLiver
4763	559071	2020.P15.gz43_265165	F	M00055091C:D11	UC2-ColonMetLiver
4764	550701	2020.C16.gz43_265168	F	M00055076B:H06	UC2-ColonMetLiver
4765	551976	2020.G16.gz43_265172	F	M00055080D:A01	UC2-ColonMetLiver
4766	460244	2020.I16.gz43_265174	F	M00055082D:G01	UC2-ColonMetLiver
4767	556802	2020.J16.gz43_265175	F	M00055084A:E10	UC2-ColonMetLiver
4768	454910	2020.K16.gz43_265176	F	M00055085B:D02	UC2-ColonMetLiver
4769	557214	2020.L16.gz43_265177	F	M00055086D:H07	UC2-ColonMetLiver
4770	612961	2020.F17.gz43_265187	F	M00055079D:A03	UC2-ColonMetLiver
4771	465446	2020.I17.gz43_265190	F	M00055082D:H02	UC2-ColonMetLiver
4772	556925	2020.J17.gz43_265191	F	M00055084A:F10	UC2-ColonMetLiver
4773	98869	2020.O17.gz43_265196	F	M00055090D:F03	UC2-ColonMetLiver
4774	553372	2020.H18.gz43_265205	F	M00055081C:G01	UC2-ColonMetLiver
4775	558231	2020.J18.gz43_265207	F	M00055084B:A04	UC2-ColonMetLiver
4776	553318	2020.G19.gz43_265220	F	M00055080D:E07	UC2-ColonMetLiver
4777	449613	2020.H19.gz43_265221	F	M00055081C:H04	UC2-ColonMetLiver
4778	560507	2020.N19.gz43_265227	F	M00055089C:D06	UC2-ColonMetLiver
4779	560069	2020.B20.gz43_265231	F	M00055075D:D05	UC2-ColonMetLiver
4780	557954	2020.C20.gz43_265232	F	M00055076C:H07	UC2-ColonMetLiver
4781	555996	2020.E21.gz43_265250	F	M00055078D:A07	UC2-ColonMetLiver
4782	494625	2020.G21.gz43_265252	F	M00055080D:F01	UC2-ColonMetLiver
4783	554828	2020.P21.gz43_265261	F	M00055091D:A03	UC2-ColonMetLiver
4784	562229	2020.A22.gz43_265262	F	M00055074D:B04	UC2-ColonMetLiver
4785	561975	2020.M22.gz43_265274	F	M00055088C:D01	UC2-ColonMetLiver
4786	560080	2020.N22.gz43_265275	F	M00055090A:F02	UC2-ColonMetLiver
4787	557783	2020.C23.gz43_265280	F	M00055076D:F11	UC2-ColonMetLiver
4788	556881	2020.K23.gz43_265288	F	M00055085D:F03	UC2-ColonMetLiver



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4789	557747	2020.M23.gz43_265290	F	M00055088C:D02	UC2-ColonMetLiver
4790	598101	2020.O23.gz43_265292	F	M00055091A:C09	UC2-ColonMetLiver
4791	451185	2020.F24.gz43_265299	F	M00055080A:F05	UC2-ColonMetLiver
4792	552019	2020.H24.gz43_265301	F	M00055082A:A12	UC2-ColonMetLiver
4793	555725	2020.K24.gz43_265304	F	M00055085D:G09	UC2-ColonMetLiver
4794	562748	2029.P01.gz43_265325	F	M00055111A:F10	UC2-ColonMetLiver
4795	562989	2029.I02.gz43_265334	F	M00055100C:H06	UC2-ColonMetLiver
4796	562243	2029.I03.gz43_265350	F	M00055100D:B02	UC2-ColonMetLiver
4797	562768	2029.B06.gz43_265391	F	M00055093A:F07	UC2-ColonMetLiver
4798	491127	2029.D06.gz43_265393	F	M00055094D:F09	UC2-ColonMetLiver
4799	555330	2029.H07.gz43_265413	F	M00055100A:C05	UC2-ColonMetLiver
4800	552704	2029.L07.gz43_265417	F	M00055105D:B06	UC2-ColonMetLiver
4801	561426	2029.O08.gz43_265436	F	M00055110A:C03	UC2-ColonMetLiver
4802	551967	2029.E09.gz43_265442	F	M00055096A:G08	UC2-ColonMetLiver
4803	453533	2029.F09.gz43_265443	F	M00055097B:B12	UC2-ColonMetLiver
4804	394189	2029.O09.gz43_265452	F	M00055110A:C05	UC2-ColonMetLiver
4805	562719	2029.F10.gz43_265459	F	M00055097B:F08	UC2-ColonMetLiver
4806	562307	2029.C11.gz43_265472	F	M00055094B:B11	UC2-ColonMetLiver
4807	98484	2029.D11.gz43_265473	F	M00055095A:D08	UC2-ColonMetLiver
4808	558118	2029.G11.gz43_265476	F	M00055099A:G05	UC2-ColonMetLiver
4809	562881	2029.B14.gz43_265519	F	M00055093B:G08	UC2-ColonMetLiver
4810	553548	2029.K14.gz43_265528	F	M00055104B:F09	UC2-ColonMetLiver
4811	637966	2029.A15.gz43_265534	F	M00055092B:G09	UC2-ColonMetLiver
4812	560575	2029.L15.gz43_265545	F	M00055106A:E04	UC2-ColonMetLiver
4813	554496	2029.E16.gz43_265554	F	M00055096C:C03	UC2-ColonMetLiver
4814	561144	2029.J16.gz43_265559	F	M00055103A:H11	UC2-ColonMetLiver
4815	560628	2029.I20.gz43_265622	F	M00055102A:E11	UC2-ColonMetLiver
4816	558511	2029.J20.gz43_265623	F	M00055103C:B07	UC2-ColonMetLiver
4817	402488	2029.C21.gz43_265632	F	M00055094C:C10	UC2-ColonMetLiver
4818	556613	2029.J21.gz43_265639	F	M00055103C:D05	UC2-ColonMetLiver
4819	560898	2029.J22.gz43_265655	F	M00055103C:G03	UC2-ColonMetLiver
4820	454499	2029.L22.gz43_265657	F	M00055106C:B06	UC2-ColonMetLiver
4821	559955	2029.K23.gz43_265672	F	M00055105A:A05	UC2-ColonMetLiver
4822	554233	2030.J01.gz43_265703	F	M00055128A:C10	UC2-ColonMetLiver
4823	557615	2030.K01.gz43_265704	F	M00055128D:D04	UC2-ColonMetLiver
4824	449035	2030.C02.gz43_265712	F	M00055115C:G09	UC2-ColonMetLiver
4825	452525	2030.E03.gz43_265730	F	M00055118C:B03	UC2-ColonMetLiver
4826	452775	2030.L03.gz43_265737	F	M00055129D:C02	UC2-ColonMetLiver
4827	560868	2030.E05.gz43_265762	F	M00055118D:B04	UC2-ColonMetLiver
4828	538830	2030.H05.gz43_265765	F	M00055125A:A02	UC2-ColonMetLiver
4829	486683	2030.K05.gz43_265768	F	M00055129A:B03	UC2-ColonMetLiver
4830	488030	2030.L06.gz43_265785	F	M00055129D:F11	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4831	66678	2030.M06.gz43_265786	F	M00055130D:F08	UC2-ColonMetLiver
4832	528369	2030.J07.gz43_265799	F	M00055128B:B12	UC2-ColonMetLiver
4833	479732	2030.G08.gz43_265812	F	M00055124A:F01	UC2-ColonMetLiver
4834	557747	2030.O08.gz43_265820	F	M00055133B:E08	UC2-ColonMetLiver
4835	558534	2030.H09.gz43_265829	F	M00055125B:F01	UC2-ColonMetLiver
4836	312036	2030.D10.gz43_265841	F	M00055117A:G08	UC2-ColonMetLiver
4837	461653	2030.J10.gz43_265847	F	M00055128B:E12	UC2-ColonMetLiver
4838	558060	2030.G11.gz43_265860	F	M00055124B:A11	UC2-ColonMetLiver
4839	557610	2030.L11.gz43_265865	F	M00055130A:D10	UC2-ColonMetLiver
4840	557284	2030.P11.gz43_265869	F	M00055134C:A01	UC2-ColonMetLiver
4841	562714	2030.A12.gz43_265870	F	M00055113B:F02	UC2-ColonMetLiver
4842	453274	2030.C12.gz43_265872	F	M00055116A:C07	UC2-ColonMetLiver
4843	551068	2030.P12.gz43_265885	F	M00055134C:B01	UC2-ColonMetLiver
4844	125543	2030.J13.gz43_265895	F	M00055128B:G01	UC2-ColonMetLiver
4845	449454	2030.M13.gz43_265898	F	M00055131A:D07	UC2-ColonMetLiver
4846	562760	2030.O13.gz43_265900	F	M00055133C:C06	UC2-ColonMetLiver
4847	557710	2030.P13.gz43_265901	F	M00055134C:E09	UC2-ColonMetLiver
4848	526334	2030.E14.gz43_265906	F	M00055119D:F08	UC2-ColonMetLiver
4849	451392	2030.O15.gz43_265932	F	M00055133C:G07	UC2-ColonMetLiver
4850	549591	2030.D16.gz43_265937	F	M00055117C:C03	UC2-ColonMetLiver
4851	557895	2030.H16.gz43_265941	F	M00055125C:H03	UC2-ColonMetLiver
4852	554989	2030.J16.gz43_265943	F	M00055128C:E03	UC2-ColonMetLiver
4853	561265	2030.D17.gz43_265953	F	M00055117C:F02	UC2-ColonMetLiver
4854	558015	2030.O17.gz43_265964	F	M00055133C:H11	UC2-ColonMetLiver
4855	561741	2030.A18.gz43_265966	F	M00055114A:E02	UC2-ColonMetLiver
4856	477295	2030.O18.gz43_265980	F	M00055133D:A02	UC2-ColonMetLiver
4857	556310	2030.E19.gz43_265986	F	M00055120B:F12	UC2-ColonMetLiver
4858	558452	2030.H20.gz43_266005	F	M00055125D:E02	UC2-ColonMetLiver
4859	610269	2030.N21.gz43_266027	F	M00055132D:E07	UC2-ColonMetLiver
4860	561279	2030.J22.gz43_266039	F	M00055128D:C11	UC2-ColonMetLiver
4861	557719	2030.N22.gz43_266043	F	M00055132D:E10	UC2-ColonMetLiver
4862	451391	2030.O22.gz43_266044	F	M00055133D:F02	UC2-ColonMetLiver
4863	554737	2030.D24.gz43_266065	F	M00055118B:A09	UC2-ColonMetLiver
4864	452759	2030.K24.gz43_266072	F	M00055129C:H08	UC2-ColonMetLiver
4865	562683	2031.A01.gz43_266078	F	M00055135A:E07	UC2-ColonMetLiver
4866	558463	2031.C04.gz43_266128	F	M00055138A:E08	UC2-ColonMetLiver
4867	211273	2031.I04.gz43_266134	F	M00055146A:B12	UC2-ColonMetLiver
4868	468257	2031.N04.gz43_266139	F	M00055152D:C03	UC2-ColonMetLiver
4869	558768	2031.B05.gz43_266143	F	M00055136D:D09	UC2-ColonMetLiver
4870	561245	2031.G05.gz43_266148	F	M00055144A:A11	UC2-ColonMetLiver
4871	557783	2031.K05.gz43_266152	F	M00055149B:F09	UC2-ColonMetLiver
4872	549930	2031.O05.gz43_266156	F	M00055154D:F06	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4873	558619	2031.C06.gz43_266160	F	M00055138A:G08	UC2-ColonMetLiver
4874	450630	2031.G06.gz43_266164	F	M00055144A:E09	UC2-ColonMetLiver
4875	524721	2031.O06.gz43_266172	F	M00055154D:G12	UC2-ColonMetLiver
4876	561624	2031.P06.gz43_266173	F	M00055156A:D02	UC2-ColonMetLiver
4877	497493	2031.N07.gz43_266187	F	M00055152D:H09	UC2-ColonMetLiver
4878	490846	2031.M08.gz43_266202	F	M00055152A:B05	UC2-ColonMetLiver
4879	558645	2031.P08.gz43_266205	F	M00055156B:C11	UC2-ColonMetLiver
4880	553969	2031.D09.gz43_266209	F	M00055139B:E10	UC2-ColonMetLiver
4881	558007	2031.P09.gz43_266221	F	M00055156C:A08	UC2-ColonMetLiver
4882	550047	2031.B10.gz43_266223	F	M00055137A:E05	UC2-ColonMetLiver
4883	562000	2031.I10.gz43_266230	F	M00055146B:E09	UC2-ColonMetLiver
4884	160289	2031.L10.gz43_266233	F	M00055150D:C06	UC2-ColonMetLiver
4885	27586	2031.C11.gz43_266240	F	M00055138B:H12	UC2-ColonMetLiver
4886	558230	2031.D11.gz43_266241	F	M00055139B:G03	UC2-ColonMetLiver
4887	549739	2031.M12.gz43_266266	F	M00055152A:E09	UC2-ColonMetLiver
4888	561558	2031.P12.gz43_266269	F	M00055156C:D06	UC2-ColonMetLiver
4889	556630	2031.B14.gz43_266287	F	M00055137B:B11	UC2-ColonMetLiver
4890	561178	2031.P15.gz43_266317	F	M00055156D:A02	UC2-ColonMetLiver
4891	558477	2031.B16.gz43_266319	F	M00055137B:F12	UC2-ColonMetLiver
4892	557250	2031.M16.gz43_266330	F	M00055152B:A03	UC2-ColonMetLiver
4893	556288	2031.P17.gz43_266349	F	M00055157A:B04	UC2-ColonMetLiver
4894	610893	2031.L18.gz43_266361	F	M00055151A:F10	UC2-ColonMetLiver
4895	557708	2031.O24.gz43_266460	F	M00055155D:B02	UC2-ColonMetLiver
4896	562881	2032.E01.gz43_266466	F	M00055162A:B03	UC2-ColonMetLiver
4897	494198	2032.L01.gz43_266473	F	M00055170D:B09	UC2-ColonMetLiver
4898	551475	2032.O01.gz43_266476	F	M00055177A:F05	UC2-ColonMetLiver
4899	558720	2032.K02.gz43_266488	F	M00055169D:A11	UC2-ColonMetLiver
4900	2435	2032.E03.gz43_266498	F	M00055162A:C12	UC2-ColonMetLiver
4901	559464	2032.I04.gz43_266518	F	M00055166D:F02	UC2-ColonMetLiver
4902	559389	2032.A05.gz43_266526	F	M00055157C:C11	UC2-ColonMetLiver
4903	559562	2032.H05.gz43_266533	F	M00055165B:G09	UC2-ColonMetLiver
4904	402799	2032.M05.gz43_266538	F	M00055172A:C09	UC2-ColonMetLiver
4905	557316	2032.J06.gz43_266551	F	M00055168B:F11	UC2-ColonMetLiver
4906	557209	2032.K06.gz43_266552	F	M00055170A:A09	UC2-ColonMetLiver
4907	554604	2032.M06.gz43_266554	F	M00055172A:F03	UC2-ColonMetLiver
4908	558917	2032.H07.gz43_266565	F	M00055165C:H08	UC2-ColonMetLiver
4909	493261	2032.I07.gz43_266566	F	M00055167A:A02	UC2-ColonMetLiver
4910	558755	2032.K07.gz43_266568	F	M00055170A:A11	UC2-ColonMetLiver
4911	558900	2032.M09.gz43_266602	F	M00055172B:B04	UC2-ColonMetLiver
4912	553537	2032.C10.gz43_266608	F	M00055160C:D02	UC2-ColonMetLiver
4913	561413	2032.E10.gz43_266610	F	M00055162B:B04	UC2-ColonMetLiver
4914	561876	2032.F10.gz43_266611	F	M00055163B:F07	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4915	553797	2032.H10.gz43_266613	F	M00055165D:C03	UC2-ColonMetLiver
4916	558965	2032.G11.gz43_266628	F	M00055164C:C10	UC2-ColonMetLiver
4917	561911	2032.B12.gz43_266639	F	M00055159B:G09	UC2-ColonMetLiver
4918	557961	2032.I12.gz43_266646	F	M00055167B:A08	UC2-ColonMetLiver
4919	558022	2032.K12.gz43_266648	F	M00055170B:B06	UC2-ColonMetLiver
4920	409262	2032.M12.gz43_266650	F	M00055172B:H07	UC2-ColonMetLiver
4921	415538	2032.I15.gz43_266694	F	M00055167B:H07	UC2-ColonMetLiver
4922	559057	2032.M15.gz43_266698	F	M00055172D:D04	UC2-ColonMetLiver
4923	215005	2032.B16.gz43_266703	F	M00055159C:B02	UC2-ColonMetLiver
4924	556542	2032.M16.gz43_266714	F	M00055172D:D07	UC2-ColonMetLiver
4925	562989	2032.O17.gz43_266732	F	M00055177D:F07	UC2-ColonMetLiver
4926	394772	2032.A19.gz43_266750	F	M00055158D:C01	UC2-ColonMetLiver
4927	553877	2032.E19.gz43_266754	F	M00055162C:E12	UC2-ColonMetLiver
4928	558858	2032.I19.gz43_266758	F	M00055167D:B05	UC2-ColonMetLiver
4929	559355	2032.J19.gz43_266759	F	M00055169B:F04	UC2-ColonMetLiver
4930	551693	2032.M19.gz43_266762	F	M00055172D:F12	UC2-ColonMetLiver
4931	323165	2032.E20.gz43_266770	F	M00055162C:G03	UC2-ColonMetLiver
4932	558981	2032.O20.gz43_266780	F	M00055178A:C07	UC2-ColonMetLiver
4933	561507	2032.C21.gz43_266784	F	M00055161A:C02	UC2-ColonMetLiver
4934	555883	2032.E22.gz43_266802	F	M00055162D:B01	UC2-ColonMetLiver
4935	559088	2032.O22.gz43_266812	F	M00055178A:D03	UC2-ColonMetLiver
4936	558395	2032.C23.gz43_266816	F	M00055161A:E05	UC2-ColonMetLiver
4937	447386	2032.D23.gz43_266817	F	M00055161D:H03	UC2-ColonMetLiver
4938	450566	2032.L23.gz43_266825	F	M00055171C:C01	UC2-ColonMetLiver
4939	561918	2032.E24.gz43_266834	F	M00055162D:G04	UC2-ColonMetLiver
4940	559389	2032.G24.gz43_266836	F	M00055165A:F05	UC2-ColonMetLiver
4941	555202	2032.M24.gz43_266842	F	M00055174A:H12	UC2-ColonMetLiver
4942	559752	2032.N24.gz43_266843	F	M00055176D:H01	UC2-ColonMetLiver
4943	478511	2041.B01.gz43_266847	F	M00055181B:A10	UC2-ColonMetLiver
4944	456517	2041.D01.gz43_266849	F	M00055183A:C06	UC2-ColonMetLiver
4945	557895	2041.H01.gz43_266853	F	M00055187D:G11	UC2-ColonMetLiver
4946	561975	2041.A02.gz43_266862	F	M00055179A:G08	UC2-ColonMetLiver
4947	557714	2041.D02.gz43_266865	F	M00055183A:E10	UC2-ColonMetLiver
4948	550874	2041.K02.gz43_266872	F	M00055192C:E04	UC2-ColonMetLiver
4949	539142	2041.L02.gz43_266873	F	M00055193C:C11	UC2-ColonMetLiver
4950	549911	2041.M02.gz43_266874	F	M00055194D:C05	UC2-ColonMetLiver
4951	561830	2041.N02.gz43_266875	F	M00055195C:H05	UC2-ColonMetLiver
4952	479851	2041.A03.gz43_266878	F	M00055179A:H11	UC2-ColonMetLiver
4953	549472	2041.B03.gz43_266879	F	M00055181B:E06	UC2-ColonMetLiver
4954	561687	2041.F03.gz43_266883	F	M00055185D:A02	UC2-ColonMetLiver
4955	504880	2041.L03.gz43_266889	F	M00055193C:E10	UC2-ColonMetLiver
4956	558212	2041.E04.gz43_266898	F	M00055184C:C07	UC2-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4957	559050	2041.A05.gz43_266910	F	M00055179B:D05	UC2-ColonMetLiver
4958	554520	2041.C05.gz43_266912	F	M00055182A:D07	UC2-ColonMetLiver
4959	409612	2041.E05.gz43_266914	F	M00055184C:D02	UC2-ColonMetLiver
4960	488613	2041.J05.gz43_266919	F	M00055191B:A10	UC2-ColonMetLiver
4961	558326	2041.K05.gz43_266920	F	M00055192C:H06	UC2-ColonMetLiver
4962	555394	2041.F06.gz43_266931	F	M00055185D:D11	UC2-ColonMetLiver
4963	559610	2041.H06.gz43_266933	F	M00055188A:G11	UC2-ColonMetLiver
4964	560080	2041.I06.gz43_266934	F	M00055189B:B12	UC2-ColonMetLiver
4965	555742	2041.N06.gz43_266939	F	M00055195D:B10	UC2-ColonMetLiver
4966	460727	2041.P06.gz43_266941	F	M00055198A:E05	UC2-ColonMetLiver
4967	476199	2041.B07.gz43_266943	F	M00055181C:B07	UC2-ColonMetLiver
4968	516484	2041.G07.gz43_266948	F	M00055187A:F02	UC2-ColonMetLiver
4969	187704	2041.H07.gz43_266949	F	M00055188A:H10	UC2-ColonMetLiver
4970	559000	2041.A08.gz43_266958	F	M00055179B:G07	UC2-ColonMetLiver
4971	553002	2041.B08.gz43_266959	F	M00055181C:B12	UC2-ColonMetLiver
4972	226324	2041.C08.gz43_266960	F	M00055182B:C07	UC2-ColonMetLiver
4973	562840	2041.D08.gz43_266961	F	M00055183C:A02	UC2-ColonMetLiver
4974	561513	2041.E08.gz43_266962	F	M00055184C:F01	UC2-ColonMetLiver
4975	477046	2041.F08.gz43_266963	F	M00055185D:F07	UC2-ColonMetLiver
4976	492627	2041.G08.gz43_266964	F	M00055187A:F06	UC2-ColonMetLiver
4977	559262	2041.H08.gz43_266965	F	M00055188B:E06	UC2-ColonMetLiver
4978	561513	2041.B09.gz43_266975	F	M00055181C:C09	UC2-ColonMetLiver
4979	556632	2041.C09.gz43_266976	F	M00055182B:F05	UC2-ColonMetLiver
4980	552629	2041.G09.gz43_266980	F	M00055187A:G02	UC2-ColonMetLiver
4981	549304	2041.M09.gz43_266986	F	M00055195A:B08	UC2-ColonMetLiver
4982	550652	2041.N09.gz43_266987	F	M00055195D:E11	UC2-ColonMetLiver
4983	490154	2041.P09.gz43_266989	F	M00055198B:H08	UC2-ColonMetLiver
4984	559383	2041.A10.gz43_266990	F	M00055179C:F11	UC2-ColonMetLiver
4985	502343	2041.F10.gz43_266995	F	M00055185D:H01	UC2-ColonMetLiver
4986	413915	2041.I10.gz43_266998	F	M00055189C:C01	UC2-ColonMetLiver
4987	495591	2041.L10.gz43_267001	F	M00055194A:A01	UC2-ColonMetLiver
4988	481231	2041.O10.gz43_267004	F	M00055196D:F07	UC2-ColonMetLiver
4989	559710	2041.A11.gz43_267006	F	M00055179C:H02	UC2-ColonMetLiver
4990	562569	2041.B11.gz43_267007	F	M00055181C:D06	UC2-ColonMetLiver
4991	552629	2041.F11.gz43_267011	F	M00055186A:D04	UC2-ColonMetLiver
4992	560003	2041.K11.gz43_267016	F	M00055193A:A08	UC2-ColonMetLiver
4993	550704	2041.M11.gz43_267018	F	M00055195A:C10	UC2-ColonMetLiver
4994	562569	2041.O11.gz43_267020	F	M00055196D:H02	UC2-ColonMetLiver
4995	561963	2041.D12.gz43_267025	F	M00055183C:D07	UC2-ColonMetLiver
4996	557867	2041.F12.gz43_267027	F	M00055186A:E08	UC2-ColonMetLiver
4997	143218	2041.M12.gz43_267034	F	M00055195A:E07	UC2-ColonMetLiver
4998	495074	2041.N12.gz43_267035	F	M00055196A:C04	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
4999	560213	2041.J13.gz43_267047	F	M00055191D:C05	UC2-ColonMetLiver
5000	558413	2041.L13.gz43_267049	F	M00055194A:E07	UC2-ColonMetLiver
5001	551977	2041.N13.gz43_267051	F	M00055196A:E01	UC2-ColonMetLiver
5002	558582	2041.E14.gz43_267058	F	M00055185A:G11	UC2-ColonMetLiver
5003	549665	2041.H14.gz43_267061	F	M00055188C:F08	UC2-ColonMetLiver
5004	451544	2041.K14.gz43_267064	F	M00055193A:C06	UC2-ColonMetLiver
5005	450623	2041.M14.gz43_267066	F	M00055195B:B09	UC2-ColonMetLiver
5006	551855	2041.G15.gz43_267076	F	M00055187C:C02	UC2-ColonMetLiver
5007	2284	2041.I15.gz43_267078	F	M00055190A:A05	UC2-ColonMetLiver
5008	559883	2041.J15.gz43_267079	F	M00055192A:A09	UC2-ColonMetLiver
5009	614369	2041.M15.gz43_267082	F	M00055195B:C04	UC2-ColonMetLiver
5010	553237	2041.N15.gz43_267083	F	M00055196A:H07	UC2-ColonMetLiver
5011	559883	2041.E16.gz43_267090	F	M00055185B:B01	UC2-ColonMetLiver
5012	481136	2041.F16.gz43_267091	F	M00055186C:A02	UC2-ColonMetLiver
5013	559885	2041.O16.gz43_267100	F	M00055197B:A10	UC2-ColonMetLiver
5014	551415	2041.P16.gz43_267101	F	M00055198D:A12	UC2-ColonMetLiver
5015	561351	2041.B17.gz43_267103	F	M00055181C:H01	UC2-ColonMetLiver
5016	556881	2041.C17.gz43_267104	F	M00055182C:E09	UC2-ColonMetLiver
5017	549588	2041.G17.gz43_267108	F	M00055187C:E07	UC2-ColonMetLiver
5018	365634	2041.N17.gz43_267115	F	M00055196B:A09	UC2-ColonMetLiver
5019	556343	2041.P17.gz43_267117	F	M00055198D:B08	UC2-ColonMetLiver
5020	624044	2041.K18.gz43_267128	F	M00055193B:A08	UC2-ColonMetLiver
5021	562336	2041.N18.gz43_267131	F	M00055196B:C06	UC2-ColonMetLiver
5022	557935	2041.D19.gz43_267137	F	M00055184A:G02	UC2-ColonMetLiver
5023	557298	2041.G19.gz43_267140	F	M00055187D:A08	UC2-ColonMetLiver
5024	559146	2041.H19.gz43_267141	F	M00055188D:D05	UC2-ColonMetLiver
5025	455814	2041.I19.gz43_267142	F	M00055190A:F11	UC2-ColonMetLiver
5026	549829	2041.A20.gz43_267150	F	M00055181A:E01	UC2-ColonMetLiver
5027	473742	2041.B21.gz43_267167	F	M00055181D:D05	UC2-ColonMetLiver
5028	559333	2041.C21.gz43_267168	F	M00055182D:E06	UC2-ColonMetLiver
5029	559825	2041.H21.gz43_267173	F	M00055188D:H03	UC2-ColonMetLiver
5030	625988	2041.O21.gz43_267180	F	M00055197C:D10	UC2-ColonMetLiver
5031	491260	2041.P21.gz43_267181	F	M00055198D:G03	UC2-ColonMetLiver
5032	557644	2041.A22.gz43_267182	F	M00055181A:G02	UC2-ColonMetLiver
5033	411113	2041.E22.gz43_267186	F	M00055185C:B01	UC2-ColonMetLiver
5034	557961	2041.C23.gz43_267200	F	M00055182D:H08	UC2-ColonMetLiver
5035	559194	2041.A24.gz43_267214	F	M00055181A:H01	UC2-ColonMetLiver
5036	558463	2041.H24.gz43_267221	F	M00055189A:C11	UC2-ColonMetLiver
5037	560859	2041.I24.gz43_267222	F	M00055190C:G08	UC2-ColonMetLiver
5038	456697	2041.N24.gz43_267227	F	M00055196C:B07	UC2-ColonMetLiver
5039	559127	2054.E01.gz43_267234	F	M00055288B:D01	UC2-ColonMetLiver
5040	559460	2054.L01.gz43_267241	F	M00055300C:F11	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5041	624133	2054.M03.gz43_267274	F	M00055302B:B10	UC2-ColonMetLiver
5042	1079	2054.M05.gz43_267306	F	M00055302B:F07	UC2-ColonMetLiver
5043	559113	2054.A07.gz43_267326	F	M00055282A:A01	UC2-ColonMetLiver
5044	500337	2054.J13.gz43_267431	F	M00055297D:C02	UC2-ColonMetLiver
5045	558730	2054.E14.gz43_267442	F	M00055288D:A03	UC2-ColonMetLiver
5046	561779	2054.I14.gz43_267446	F	M00055296A:C05	UC2-ColonMetLiver
5047	397581	2054.H17.gz43_267493	F	M00055294B:C03	UC2-ColonMetLiver
5048	560420	2054.O18.gz43_267516	F	M00055305C:D08	UC2-ColonMetLiver
5049	559728	2054.C19.gz43_267520	F	M00055286A:H08	UC2-ColonMetLiver
5050	559531	2054.H20.gz43_267541	F	M00055294B:G01	UC2-ColonMetLiver
5051	23961	2054.K20.gz43_267544	F	M00055300A:B06	UC2-ColonMetLiver
5052	558446	2054.I21.gz43_267558	F	M00055296C:E08	UC2-ColonMetLiver
5053	562236	2055.K01.gz43_267624	F	M00055323D:A12	UC2-ColonMetLiver
5054	559776	2055.N01.gz43_267627	F	M00055330D:H12	UC2-ColonMetLiver
5055	559574	2055.J04.gz43_267671	F	M00055322C:G11	UC2-ColonMetLiver
5056	558890	2055.I05.gz43_267686	F	M00055321B:B10	UC2-ColonMetLiver
5057	552673	2055.J05.gz43_267687	F	M00055322D:A01	UC2-ColonMetLiver
5058	446900	2055.J07.gz43_267719	F	M00055322D:C12	UC2-ColonMetLiver
5059	559112	2055.C08.gz43_267728	F	M00055312A:D11	UC2-ColonMetLiver
5060	440707	2055.C09.gz43_267744	F	M00055312A:E10	UC2-ColonMetLiver
5061	555359	2055.F12.gz43_267795	F	M00055317C:D04	UC2-ColonMetLiver
5062	472188	2055.P12.gz43_267805	F	M00055335D:A03	UC2-ColonMetLiver
5063	617813	2055.E13.gz43_267810	F	M00055315C:A09	UC2-ColonMetLiver
5064	559027	2055.I13.gz43_267814	F	M00055321D:C12	UC2-ColonMetLiver
5065	448677	2055.K13.gz43_267816	F	M00055324C:H10	UC2-ColonMetLiver
5066	555277	2055.K15.gz43_267848	F	M00055324D:B02	UC2-ColonMetLiver
5067	560538	2055.O16.gz43_267868	F	M00055334C:E11	UC2-ColonMetLiver
5068	560369	2055.D17.gz43_267873	F	M00055313D:E10	UC2-ColonMetLiver
5069	559794	2055.G19.gz43_267908	F	M00055319B:H06	UC2-ColonMetLiver
5070	138470	2055.B20.gz43_267919	F	M00055310B:E02	UC2-ColonMetLiver
5071	558105	2055.H20.gz43_267925	F	M00055320D:E09	UC2-ColonMetLiver
5072	473343	2055.K21.gz43_267944	F	M00055325A:E12	UC2-ColonMetLiver
5073	554176	2055.O21.gz43_267948	F	M00055334D:G07	UC2-ColonMetLiver
5074	477757	2055.E22.gz43_267954	F	M00055316B:B10	UC2-ColonMetLiver
5075	553709	2055.G22.gz43_267956	F	M00055319C:C03	UC2-ColonMetLiver
5076	554585	2055.K22.gz43_267960	F	M00055325A:H02	UC2-ColonMetLiver
5077	451429	2055.N22.gz43_267963	F	M00055333C:F12	UC2-ColonMetLiver
5078	551811	2055.A23.gz43_267966	F	M00055308D:C09	UC2-ColonMetLiver
5079	62458	2055.C23.gz43_267968	F	M00055312D:A09	UC2-ColonMetLiver
5080	551912	2055.D23.gz43_267969	F	M00055314B:G07	UC2-ColonMetLiver
5081	552857	2055.G23.gz43_267972	F	M00055319C:C07	UC2-ColonMetLiver
5082	555349	2055.N23.gz43_267979	F	M00055333C:H07	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5083	560259	2056.F01.gz43_268003	F	M00055343D:C12	UC2-ColonMetLiver
5084	550063	2056.G01.gz43_268004	F	M00055344D:A09	UC2-ColonMetLiver
5085	560544	2056.M01.gz43_268010	F	M00055352B:E06	UC2-ColonMetLiver
5086	561108	2056.P01.gz43_268013	F	M00055356C:H02	UC2-ColonMetLiver
5087	512014	2056.L02.gz43_268025	F	M00055351B:H12	UC2-ColonMetLiver
5088	627386	2056.D03.gz43_268033	F	M00055341C:F04	UC2-ColonMetLiver
5089	561124	2056.E03.gz43_268034	F	M00055342C:H06	UC2-ColonMetLiver
5090	418482	2056.H03.gz43_268037	F	M00055346A:E12	UC2-ColonMetLiver
5091	558562	2056.A04.gz43_268046	F	M00055336D:B03	UC2-ColonMetLiver
5092	551912	2056.B04.gz43_268047	F	M00055338C:F03	UC2-ColonMetLiver
5093	552669	2056.D04.gz43_268049	F	M00055341C:G12	UC2-ColonMetLiver
5094	559857	2056.J04.gz43_268055	F	M00055348D:A01	UC2-ColonMetLiver
5095	557372	2056.M04.gz43_268058	F	M00055352B:H05	UC2-ColonMetLiver
5096	558182	2056.N04.gz43_268059	F	M00055354A:A01	UC2-ColonMetLiver
5097	552430	2056.B05.gz43_268063	F	M00055338C:G04	UC2-ColonMetLiver
5098	560932	2056.F05.gz43_268067	F	M00055343D:G03	UC2-ColonMetLiver
5099	559049	2056.G05.gz43_268068	F	M00055345A:D05	UC2-ColonMetLiver
5100	449405	2056.C06.gz43_268080	F	M00055340B:C03	UC2-ColonMetLiver
5101	558769	2056.G06.gz43_268084	F	M00055345B:B03	UC2-ColonMetLiver
5102	556216	2056.K06.gz43_268088	F	M00055350A:F01	UC2-ColonMetLiver
5103	553591	2056.M06.gz43_268090	F	M00055352C:A07	UC2-ColonMetLiver
5104	561024	2056.B07.gz43_268095	F	M00055338C:H06	UC2-ColonMetLiver
5105	560652	2056.C07.gz43_268096	F	M00055340B:E06	UC2-ColonMetLiver
5106	559296	2056.F07.gz43_268099	F	M00055343D:H04	UC2-ColonMetLiver
5107	560174	2056.P07.gz43_268109	F	M00055356D:C11	UC2-ColonMetLiver
5108	552357	2056.D08.gz43_268113	F	M00055341D:H07	UC2-ColonMetLiver
5109	627139	2056.E08.gz43_268114	F	M00055342D:F07	UC2-ColonMetLiver
5110	509505	2056.H08.gz43_268117	F	M00055346B:G03	UC2-ColonMetLiver
5111	560369	2056.C09.gz43_268128	F	M00055340C:D01	UC2-ColonMetLiver
5112	559375	2056.G09.gz43_268132	F	M00055345B:F03	UC2-ColonMetLiver
5113	449927	2056.K09.gz43_268136	F	M00055350B:B12	UC2-ColonMetLiver
5114	449751	2056.P10.gz43_268157	F	M00055357A:A09	UC2-ColonMetLiver
5115	560370	2056.C11.gz43_268160	F	M00055340D:D01	UC2-ColonMetLiver
5116	561124	2056.E11.gz43_268162	F	M00055342D:H05	UC2-ColonMetLiver
5117	549041	2056.J11.gz43_268167	F	M00055349A:F07	UC2-ColonMetLiver
5118	560695	2056.K11.gz43_268168	F	M00055350B:D09	UC2-ColonMetLiver
5119	471712	2056.N11.gz43_268171	F	M00055354A:G11	UC2-ColonMetLiver
5120	448285	2056.F12.gz43_268179	F	M00055344A:G11	UC2-ColonMetLiver
5121	561068	2056.N12.gz43_268187	F	M00055354A:H08	UC2-ColonMetLiver
5122	562883	2056.B13.gz43_268191	F	M00055339B:D10	UC2-ColonMetLiver
5123	560717	2056.C13.gz43_268192	F	M00055340D:F08	UC2-ColonMetLiver
5124	560199	2056.E13.gz43_268194	F	M00055343A:C09	UC2-ColonMetLiver



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5125	618311	2056.F13.gz43_268195	F	M00055344B:A12	UC2-ColonMetLiver
5126	455379	2056.M13.gz43_268202	F	M00055353B:B09	UC2-ColonMetLiver
5127	471272	2056.O13.gz43_268204	F	M00055356A:B06	UC2-ColonMetLiver
5128	562576	2056.D14.gz43_268209	F	M00055342A:E08	UC2-ColonMetLiver
5129	626061	2056.O14.gz43_268220	F	M00055356A:D04	UC2-ColonMetLiver
5130	558867	2056.A15.gz43_268222	F	M00055337D:B10	UC2-ColonMetLiver
5131	553875	2056.K15.gz43_268232	F	M00055350C:G11	UC2-ColonMetLiver
5132	556365	2056.O15.gz43_268236	F	M00055356A:D09	UC2-ColonMetLiver
5133	453004	2056.A16.gz43_268238	F	M00055338A:A02	UC2-ColonMetLiver
5134	558653	2056.C16.gz43_268240	F	M00055341B:A01	UC2-ColonMetLiver
5135	560868	2056.E16.gz43_268242	F	M00055343A:G03	UC2-ColonMetLiver
5136	551305	2056.G16.gz43_268244	F	M00055345D:A04	UC2-ColonMetLiver
5137	559004	2056.H16.gz43_268245	F	M00055347A:C03	UC2-ColonMetLiver
5138	238146	2056.N16.gz43_268251	F	M00055354C:C12	UC2-ColonMetLiver
5139	559971	2056.A17.gz43_268254	F	M00055338A:A03	UC2-ColonMetLiver
5140	559963	2056.I17.gz43_268262	F	M00055348B:A02	UC2-ColonMetLiver
5141	549781	2056.O17.gz43_268268	F	M00055356B:B04	UC2-ColonMetLiver
5142	491240	2056.F18.gz43_268275	F	M00055344C:C08	UC2-ColonMetLiver
5143	559087	2056.G18.gz43_268276	F	M00055345D:D01	UC2-ColonMetLiver
5144	103123	2056.I18.gz43_268278	F	M00055348B:B05	UC2-ColonMetLiver
5145	426698	2056.M18.gz43_268282	F	M00055353C:A05	UC2-ColonMetLiver
5146	560254	2056.C19.gz43_268288	F	M00055341B:C07	UC2-ColonMetLiver
5147	403419	2056.D19.gz43_268289	F	M00055342B:C08	UC2-ColonMetLiver
5148	400047	2056.E19.gz43_268290	F	M00055343C:B11	UC2-ColonMetLiver
5149	559093	2056.G19.gz43_268292	F	M00055345D:D12	UC2-ColonMetLiver
5150	458618	2056.J19.gz43_268295	F	M00055349C:G07	UC2-ColonMetLiver
5151	558890	2056.F20.gz43_268307	F	M00055344C:F09	UC2-ColonMetLiver
5152	559246	2056.G20.gz43_268308	F	M00055345D:E02	UC2-ColonMetLiver
5153	562849	2056.J20.gz43_268311	F	M00055349C:H12	UC2-ColonMetLiver
5154	561116	2056.A21.gz43_268318	F	M00055338A:H10	UC2-ColonMetLiver
5155	558334	2056.G21.gz43_268324	F	M00055345D:E05	UC2-ColonMetLiver
5156	552258	2056.I22.gz43_268342	F	M00055348B:F05	UC2-ColonMetLiver
5157	560311	2056.K22.gz43_268344	F	M00055351A:C09	UC2-ColonMetLiver
5158	560714	2056.A23.gz43_268350	F	M00055338B:F06	UC2-ColonMetLiver
5159	496460	2056.D23.gz43_268353	F	M00055342C:E03	UC2-ColonMetLiver
5160	487623	2056.N23.gz43_268363	F	M00055355A:A10	UC2-ColonMetLiver
5161	559806	2056.F24.gz43_268371	F	M00055344C:H09	UC2-ColonMetLiver
5162	560088	2056.G24.gz43_268372	F	M00055346A:B01	UC2-ColonMetLiver
5163	556011	2056.J24.gz43_268375	F	M00055349D:F02	UC2-ColonMetLiver
5164	555095	2056.L24.gz43_268377	F	M00055352B:E01	UC2-ColonMetLiver
5165	558959	2056.M24.gz43_268378	F	M00055353D:C05	UC2-ColonMetLiver
5166	466887	2065.M01.gz43_268394	F	M00055373C:F05	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5167	495799	2065.C02.gz43_268400	F	M00055360C:C05	UC2-ColonMetLiver
5168	550562	2065.E02.gz43_268402	F	M00055363A:F07	UC2-ColonMetLiver
5169	523606	2065.H02.gz43_268405	F	M00055367D:A05	UC2-ColonMetLiver
5170	549163	2065.J02.gz43_268407	F	M00055370B:F07	UC2-ColonMetLiver
5171	562844	2065.P02.gz43_268413	F	M00055377B:E10	UC2-ColonMetLiver
5172	636651	2065.F03.gz43_268419	F	M00055364D:E09	UC2-ColonMetLiver
5173	543323	2065.M03.gz43_268426	F	M00055373C:H10	UC2-ColonMetLiver
5174	556416	2065.L04.gz43_268441	F	M00055372D:C11	UC2-ColonMetLiver
5175	498509	2065.M04.gz43_268442	F	M00055373D:B08	UC2-ColonMetLiver
5176	376726	2065.N04.gz43_268443	F	M00055374C:F01	UC2-ColonMetLiver
5177	559696	2065.D05.gz43_268449	F	M00055361D:H12	UC2-ColonMetLiver
5178	484748	2065.K05.gz43_268456	F	M00055371D:B08	UC2-ColonMetLiver
5179	561229	2065.O05.gz43_268460	F	M00055376A:A08	UC2-ColonMetLiver
5180	627297	2065.A06.gz43_268462	F	M00055358A:F09	UC2-ColonMetLiver
5181	456469	2065.C06.gz43_268464	F	M00055360C:G11	UC2-ColonMetLiver
5182	552031	2065.J06.gz43_268471	F	M00055370C:D02	UC2-ColonMetLiver
5183	527410	2065.G07.gz43_268484	F	M00055366D:G10	UC2-ColonMetLiver
5184	556959	2065.I07.gz43_268486	F	M00055369A:H08	UC2-ColonMetLiver
5185	501534	2065.B08.gz43_268495	F	M00055359C:H09	UC2-ColonMetLiver
5186	91178	2065.E08.gz43_268498	F	M00055363C:E02	UC2-ColonMetLiver
5187	461325	2065.P08.gz43_268509	F	M00055377C:G01	UC2-ColonMetLiver
5188	561485	2065.A09.gz43_268510	F	M00055358B:C01	UC2-ColonMetLiver
5189	557783	2065.I09.gz43_268518	F	M00055369C:D04	UC2-ColonMetLiver
5190	474580	2065.O09.gz43_268524	F	M00055376B:A03	UC2-ColonMetLiver
5191	450637	2065.P09.gz43_268525	F	M00055377C:H08	UC2-ColonMetLiver
5192	504167	2065.N10.gz43_268539	F	M00055374D:C09	UC2-ColonMetLiver
5193	561279	2065.O10.gz43_268540	F	M00055376B:A11	UC2-ColonMetLiver
5194	451124	2065.B11.gz43_268543	F	M00055359D:C12	UC2-ColonMetLiver
5195	558412	2065.D11.gz43_268545	F	M00055362C:B06	UC2-ColonMetLiver
5196	558334	2065.F11.gz43_268547	F	M00055365C:D12	UC2-ColonMetLiver
5197	552265	2065.K11.gz43_268552	F	M00055372A:H02	UC2-ColonMetLiver
5198	555796	2065.M11.gz43_268554	F	M00055374A:B11	UC2-ColonMetLiver
5199	558507	2065.N11.gz43_268555	F	M00055374D:F10	UC2-ColonMetLiver
5200	453846	2065.O11.gz43_268556	F	M00055376B:B01	UC2-ColonMetLiver
5201	556430	2065.G12.gz43_268564	F	M00055367A:B11	UC2-ColonMetLiver
5202	549984	2065.J12.gz43_268567	F	M00055370D:F06	UC2-ColonMetLiver
5203	561825	2065.F13.gz43_268579	F	M00055365C:F11	UC2-ColonMetLiver
5204	560959	2065.J13.gz43_268583	F	M00055370D:H07	UC2-ColonMetLiver
5205	636876	2065.M13.gz43_268586	F	M00055374A:E01	UC2-ColonMetLiver
5206	562801	2065.P13.gz43_268589	F	M00055377D:F12	UC2-ColonMetLiver
5207	559675	2065.D14.gz43_268593	F	M00055362C:G08	UC2-ColonMetLiver
5208	632260	2065.K14.gz43_268600	F	M00055372B:E01	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5209	490308	2065.L14.gz43_268601	F	M00055373B:A09	UC2-ColonMetLiver
5210	559828	2065.B15.gz43_268607	F	M00055359D:H02	UC2-ColonMetLiver
5211	559022	2065.C15.gz43_268608	F	M00055361A:C01	UC2-ColonMetLiver
5212	556850	2065.F15.gz43_268611	F	M00055366A:B04	UC2-ColonMetLiver
5213	508515	2065.J15.gz43_268615	F	M00055371A:B05	UC2-ColonMetLiver
5214	465610	2065.A17.gz43_268638	F	M00055358D:G04	UC2-ColonMetLiver
5215	463304	2065.E17.gz43_268642	F	M00055364B:D01	UC2-ColonMetLiver
5216	551551	2065.F17.gz43_268643	F	M00055366A:H08	UC2-ColonMetLiver
5217	559963	2065.E18.gz43_268658	F	M00055364B:E10	UC2-ColonMetLiver
5218	562027	2065.J18.gz43_268663	F	M00055371A:H10	UC2-ColonMetLiver
5219	561868	2065.K18.gz43_268664	F	M00055372B:F11	UC2-ColonMetLiver
5220	561610	2065.J19.gz43_268679	F	M00055371B:D01	UC2-ColonMetLiver
5221	562565	2065.M19.gz43_268682	F	M00055374B:D05	UC2-ColonMetLiver
5222	235456	2065.P19.gz43_268685	F	M00055378A:B12	UC2-ColonMetLiver
5223	553615	2065.C20.gz43_268688	F	M00055361B:F12	UC2-ColonMetLiver
5224	534054	2065.E20.gz43_268690	F	M00055364C:B08	UC2-ColonMetLiver
5225	511746	2065.F20.gz43_268691	F	M00055366B:C04	UC2-ColonMetLiver
5226	559495	2065.A21.gz43_268702	F	M00055359B:F03	UC2-ColonMetLiver
5227	559675	2065.C21.gz43_268704	F	M00055361B:G08	UC2-ColonMetLiver
5228	553705	2065.J21.gz43_268711	F	M00055371B:F01	UC2-ColonMetLiver
5229	559764	2065.M21.gz43_268714	F	M00055374B:F06	UC2-ColonMetLiver
5230	482090	2065.N21.gz43_268715	F	M00055375B:H02	UC2-ColonMetLiver
5231	562459	2065.C22.gz43_268720	F	M00055361C:E05	UC2-ColonMetLiver
5232	553904	2065.K22.gz43_268728	F	M00055372C:E03	UC2-ColonMetLiver
5233	555878	2065.N22.gz43_268731	F	M00055375B:H07	UC2-ColonMetLiver
5234	559676	2065.A23.gz43_268734	F	M00055359B:G09	UC2-ColonMetLiver
5235	505971	2065.F23.gz43_268739	F	M00055366C:B11	UC2-ColonMetLiver
5236	62458	2065.H23.gz43_268741	F	M00055368D:E03	UC2-ColonMetLiver
5237	207099	2065.O23.gz43_268748	F	M00055377A:B11	UC2-ColonMetLiver
5238	491635	2065.A24.gz43_268750	F	M00055359B:H07	UC2-ColonMetLiver
5239	32021	2065.D24.gz43_268753	F	M00055363A:D02	UC2-ColonMetLiver
5240	448741	2065.N24.gz43_268763	F	M00055375C:C08	UC2-ColonMetLiver
5241	504560	2078.H01.gz43_269031	F	M00042953B:D02	UC3-NormColon
5242	516415	2078.M01.gz43_269036	F	M00042965A:G02	UC3-NormColon
5243	452981	2078.J02.gz43_269049	F	M00042958B:H04	UC3-NormColon
5244	514594	2078.L02.gz43_269051	F	M00042963B:E12	UC3-NormColon
5245	451923	2078.B03.gz43_269057	F	M00042586C:E01	UC3-NormColon
5246	512721	2078.J03.gz43_269065	F	M00042958C:D04	UC3-NormColon
5247	512051	2078.K03.gz43_269066	F	M00042960D:C11	UC3-NormColon
5248	506920	2078.P03.gz43_269071	F	M00042976B:F05	UC3-NormColon
5249	451401	2078.F04.gz43_269077	F	M00042628B:G11	UC3-NormColon
5250	448594	2078.I04.gz43_269080	F	M00042955D:H03	UC3-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5251	452898	2078.M04.gz43_269084	F	M00042965B:G08	UC3-NormColon
5252	505679	2078.N04.gz43_269085	F	M00042969B:E01	UC3-NormColon
5253	451618	2078.O04.gz43_269086	F	M00042972C:F07	UC3-NormColon
5254	451841	2078.G05.gz43_269094	F	M00042951D:C05	UC3-NormColon
5255	448090	2078.I05.gz43_269096	F	M00042956A:H02	UC3-NormColon
5256	449000	2078.N05.gz43_269101	F	M00042969B:G10	UC3-NormColon
5257	373239	2078.O05.gz43_269102	F	M00042972C:F09	UC3-NormColon
5258	451802	2078.D06.gz43_269107	F	M00042623B:B09	UC3-NormColon
5259	511746	2078.E06.gz43_269108	F	M00042625D:C07	UC3-NormColon
5260	516522	2078.F06.gz43_269109	F	M00042628C:G10	UC3-NormColon
5261	423578	2078.J06.gz43_269113	F	M00042959A:B07	UC3-NormColon
5262	513888	2078.E07.gz43_269124	F	M00042625D:E08	UC3-NormColon
5263	452801	2078.L07.gz43_269131	F	M00042963D:F11	UC3-NormColon
5264	452775	2078.M07.gz43_269132	F	M00042965C:E06	UC3-NormColon
5265	415825	2078.C08.gz43_269138	F	M00042589D:D08	UC3-NormColon
5266	447904	2078.F08.gz43_269141	F	M00042628D:F12	UC3-NormColon
5267	514142	2078.J08.gz43_269145	F	M00042959A:E08	UC3-NormColon
5268	92639	2078.B09.gz43_269153	F	M00042587B:G07	UC3-NormColon
5269	452182	2078.C09.gz43_269154	F	M00042589D:F02	UC3-NormColon
5270	447210	2078.D09.gz43_269155	F	M00042623D:C02	UC3-NormColon
5271	452500	2078.O09.gz43_269166	F	M00042973B:B10	UC3-NormColon
5272	452204	2078.A10.gz43_269168	F	M00042583D:F03	UC3-NormColon
5273	447025	2078.E10.gz43_269172	F	M00042626B:A12	UC3-NormColon
5274	452324	2078.G10.gz43_269174	F	M00042952A:H12	UC3-NormColon
5275	506901	2078.A11.gz43_269184	F	M00042583D:F11	UC3-NormColon
5276	507349	2078.C11.gz43_269186	F	M00042590B:G02	UC3-NormColon
5277	452052	2078.F11.gz43_269189	F	M00042629A:E11	UC3-NormColon
5278	500853	2078.G11.gz43_269190	F	M00042952B:A08	UC3-NormColon
5279	514160	2078.J11.gz43_269193	F	M00042959B:E11	UC3-NormColon
5280	418340	2078.C12.gz43_269202	F	M00042590C:C09	UC3-NormColon
5281	452142	2078.H12.gz43_269207	F	M00042954A:F04	UC3-NormColon
5282	451994	2078.I12.gz43_269208	F	M00042957A:D06	UC3-NormColon
5283	452615	2078.J12.gz43_269209	F	M00042959C:C06	UC3-NormColon
5284	452899	2078.K12.gz43_269210	F	M00042962A:G04	UC3-NormColon
5285	446438	2078.K13.gz43_269226	F	M00042962B:A03	UC3-NormColon
5286	452462	2078.D14.gz43_269235	F	M00042624D:B05	UC3-NormColon
5287	510169	2078.J14.gz43_269241	F	M00042959D:A05	UC3-NormColon
5288	508088	2078.B16.gz43_269265	F	M00042588A:G10	UC3-NormColon
5289	452031	2078.E16.gz43_269268	F	M00042626D:D12	UC3-NormColon
5290	513155	2078.K16.gz43_269274	F	M00042962C:D05	UC3-NormColon
5291	513156	2078.L16.gz43_269275	F	M00042964C:D06	UC3-NormColon
5292	452695	2078.N16.gz43_269277	F	M00042970D:D02	UC3-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5293	448332	2078.J17.gz43_269289	F	M00042960A:B10	UC3-NormColon
5294	513168	2078.L17.gz43_269291	F	M00042964C:D10	UC3-NormColon
5295	510717	2078.N17.gz43_269293	F	M00042971A:B09	UC3-NormColon
5296	456545	2078.O17.gz43_269294	F	M00042974D:B07	UC3-NormColon
5297	4244	2078.P17.gz43_269295	F	M00042978B:F03	UC3-NormColon
5298	452376	2078.E18.gz43_269300	F	M00042627B:A10	UC3-NormColon
5299	451993	2078.H18.gz43_269303	F	M00042954D:D04	UC3-NormColon
5300	451929	2078.I18.gz43_269304	F	M00042957D:C09	UC3-NormColon
5301	511351	2078.K18.gz43_269306	F	M00042962D:B09	UC3-NormColon
5302	505858	2078.B19.gz43_269313	F	M00042588C:E07	UC3-NormColon
5303	501401	2078.C19.gz43_269314	F	M00042621D:A03	UC3-NormColon
5304	452662	2078.N19.gz43_269325	F	M00042971A:D12	UC3-NormColon
5305	512059	2078.L21.gz43_269355	F	M00042964D:C02	UC3-NormColon
5306	450805	2078.O21.gz43_269358	F	M00042975C:A08	UC3-NormColon
5307	504007	2078.B22.gz43_269361	F	M00042589B:D04	UC3-NormColon
5308	450262	2078.A23.gz43_269376	F	M00042586B:A09	UC3-NormColon
5309	452066	2078.B23.gz43_269377	F	M00042589B:E03	UC3-NormColon
5310	452459	2078.K23.gz43_269386	F	M00042963B:A02	UC3-NormColon
5311	452506	2078.L23.gz43_269387	F	M00042965A:B03	UC3-NormColon
5312	448453	2078.A24.gz43_269392	F	M00042586B:A10	UC3-NormColon
5313	7022	2089.A01.gz43_269708	F	M00042611A:A01	UC3-PrimColon
5314	523182	2089.E01.gz43_269712	F	M00043079D:G10	UC3-PrimColon
5315	2930	2089.L01.gz43_269719	F	M00043108B:D12	UC3-PrimColon
5316	454701	2089.H02.gz43_269731	F	M00043093D:F12	UC3-PrimColon
5317	454226	2089.I02.gz43_269732	F	M00043097D:B12	UC3-PrimColon
5318	524624	2089.O02.gz43_269738	F	M00043139D:A06	UC3-PrimColon
5319	453220	2089.B03.gz43_269741	F	M00042614D:A12	UC3-PrimColon
5320	453893	2089.C03.gz43_269742	F	M00042618B:G04	UC3-PrimColon
5321	453470	2089.F03.gz43_269745	F	M00043086A:C02	UC3-PrimColon
5322	524478	2089.G03.gz43_269746	F	M00043090D:H07	UC3-PrimColon
5323	529219	2089.H03.gz43_269747	F	M00043094A:F01	UC3-PrimColon
5324	454050	2089.P03.gz43_269755	F	M00043144D:H01	UC3-PrimColon
5325	519988	2089.E04.gz43_269760	F	M00043080B:C11	UC3-PrimColon
5326	523590	2089.J04.gz43_269765	F	M00043102A:G12	UC3-PrimColon
5327	452936	2089.N04.gz43_269769	F	M00043137C:D02	UC3-PrimColon
5328	453761	2089.J05.gz43_269781	F	M00043102B:F05	UC3-PrimColon
5329	405102	2089.A06.gz43_269788	F	M00042612A:B06	UC3-PrimColon
5330	454720	2089.L06.gz43_269799	F	M00043109C:F04	UC3-PrimColon
5331	454438	2089.N06.gz43_269801	F	M00043137D:D10	UC3-PrimColon
5332	448985	2089.D07.gz43_269807	F	M00043077B:H01	UC3-PrimColon
5333	530656	2089.G07.gz43_269810	F	M00043091C:H05	UC3-PrimColon
5334	454134	2089.L07.gz43_269815	F	M00043131B:A11	UC3-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5335	454910	2089.G08.gz43_269826	F	M00043091C:H08	UC3-PrimColon
5336	417549	2089.D09.gz43_269839	F	M00043077D:E12	UC3-PrimColon
5337	454374	2089.G09.gz43_269842	F	M00043091D:C01	UC3-PrimColon
5338	454518	2089.M09.gz43_269848	F	M00043134C:D06	UC3-PrimColon
5339	523753	2089.N09.gz43_269849	F	M00043138A:H03	UC3-PrimColon
5340	522648	2089.D10.gz43_269855	F	M00043077D:F04	UC3-PrimColon
5341	407275	2089.N10.gz43_269865	F	M00043138B:B08	UC3-PrimColon
5342	415326	2089.O10.gz43_269866	F	M00043141C:C12	UC3-PrimColon
5343	453756	2089.P10.gz43_269867	F	M00043146C:F10	UC3-PrimColon
5344	453766	2089.J11.gz43_269877	F	M00043102D:F11	UC3-PrimColon
5345	450287	2089.K11.gz43_269878	F	M00043106B:F07	UC3-PrimColon
5346	454825	2089.L11.gz43_269879	F	M00043131B:G10	UC3-PrimColon
5347	449335	2089.J12.gz43_269893	F	M00043103A:G05	UC3-PrimColon
5348	453572	2089.K12.gz43_269894	F	M00043106C:D05	UC3-PrimColon
5349	454550	2089.M12.gz43_269896	F	M00043135C:E07	UC3-PrimColon
5350	23649	2089.N12.gz43_269897	F	M00043138B:F02	UC3-PrimColon
5351	449430	2089.F13.gz43_269905	F	M00043087B:D10	UC3-PrimColon
5352	528134	2089.H13.gz43_269907	F	M00043096A:E01	UC3-PrimColon
5353	451391	2089.L13.gz43_269911	F	M00043131C:A11	UC3-PrimColon
5354	454126	2089.M13.gz43_269912	F	M00043135D:A11	UC3-PrimColon
5355	437064	2089.N13.gz43_269913	F	M00043138B:G11	UC3-PrimColon
5356	454129	2089.O13.gz43_269914	F	M00043141D:A12	UC3-PrimColon
5357	519109	2089.C14.gz43_269918	F	M00043075A:B12	UC3-PrimColon
5358	519641	2089.D14.gz43_269919	F	M00043078C:C04	UC3-PrimColon
5359	526575	2089.M14.gz43_269928	F	M00043135D:C07	UC3-PrimColon
5360	453783	2089.A15.gz43_269932	F	M00042613A:H01	UC3-PrimColon
5361	453533	2089.I15.gz43_269940	F	M00043100C:D08	UC3-PrimColon
5362	449394	2089.N15.gz43_269945	F	M00043138C:D09	UC3-PrimColon
5363	523732	2089.D16.gz43_269951	F	M00043078C:H05	UC3-PrimColon
5364	395536	2089.F16.gz43_269953	F	M00043088B:D07	UC3-PrimColon
5365	454509	2089.H16.gz43_269955	F	M00043096C:D02	UC3-PrimColon
5366	454562	2089.E17.gz43_269968	F	M00043082D:B05	UC3-PrimColon
5367	451972	2089.H17.gz43_269971	F	M00043096C:H04	UC3-PrimColon
5368	453726	2089.K17.gz43_269974	F	M00043107A:E07	UC3-PrimColon
5369	527361	2089.M17.gz43_269976	F	M00043136A:D03	UC3-PrimColon
5370	453783	2089.A18.gz43_269980	F	M00042613C:F06	UC3-PrimColon
5371	453385	2089.B20.gz43_270013	F	M00042617C:B07	UC3-PrimColon
5372	454177	2089.G20.gz43_270018	F	M00043093A:A06	UC3-PrimColon
5373	801	2089.I20.gz43_270020	F	M00043101A:F12	UC3-PrimColon
5374	453494	2089.J20.gz43_270021	F	M00043104B:C09	UC3-PrimColon
5375	453202	2089.P20.gz43_270027	F	M00043149B:A01	UC3-PrimColon
5376	520616	2089.F21.gz43_270033	F	M00043089A:D06	UC3-PrimColon

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5377	527873	2089.H21.gz43_270035	F	M00043097A:D11	UC3-PrimColon
5378	450566	2089.K21.gz43_270038	F	M00043107D:H04	UC3-PrimColon
5379	520074	2089.A22.gz43_270044	F	M00042614A:C04	UC3-PrimColon
5380	518566	2089.C22.gz43_270046	F	M00043076A:A09	UC3-PrimColon
5381	387530	2089.H22.gz43_270051	F	M00043097A:F06	UC3-PrimColon
5382	453846	2089.I22.gz43_270052	F	M00043101C:F12	UC3-PrimColon
5383	454483	2089.L22.gz43_270055	F	M00043132C:D02	UC3-PrimColon
5384	524157	2089.A23.gz43_270060	F	M00042614A:H02	UC3-PrimColon
5385	453132	2089.K23.gz43_270070	F	M00043108B:A01	UC3-PrimColon
5386	524622	2089.N23.gz43_270073	F	M00043139C:A05	UC3-PrimColon
5387	447446	2089.A24.gz43_270076	F	M00042614C:B09	UC3-PrimColon
5388	524470	2089.F24.gz43_270081	F	M00043090B:H06	UC3-PrimColon
5389	446242	2066.N03.gz43_270439	F	M00055392A:H06	UC2-ColonMetLiver
5390	554908	2066.P07.gz43_270505	F	M00055394D:F03	UC2-ColonMetLiver
5391	551995	2066.F08.gz43_270511	F	M00055383B:H09	UC2-ColonMetLiver
5392	561325	2066.H08.gz43_270513	F	M00055385C:F06	UC2-ColonMetLiver
5393	553244	2066.J08.gz43_270515	F	M00055388A:A09	UC2-ColonMetLiver
5394	562876	2066.D09.gz43_270525	F	M00055381C:G03	UC2-ColonMetLiver
5395	562216	2066.F09.gz43_270527	F	M00055383C:A08	UC2-ColonMetLiver
5396	560948	2066.J09.gz43_270531	F	M00055388A:B06	UC2-ColonMetLiver
5397	446531	2066.P09.gz43_270537	F	M00055395A:C02	UC2-ColonMetLiver
5398	556793	2066.K10.gz43_270548	F	M00055388D:F11	UC2-ColonMetLiver
5399	499690	2066.M10.gz43_270550	F	M00055391B:D05	UC2-ColonMetLiver
5400	558297	2066.I11.gz43_270562	F	M00055386D:G02	UC2-ColonMetLiver
5401	453508	2066.M11.gz43_270566	F	M00055391B:D07	UC2-ColonMetLiver
5402	551640	2066.N11.gz43_270567	F	M00055392C:G07	UC2-ColonMetLiver
5403	562085	2066.C12.gz43_270572	F	M00055380D:H02	UC2-ColonMetLiver
5404	446399	2066.E12.gz43_270574	F	M00055382C:H06	UC2-ColonMetLiver
5405	562498	2066.G12.gz43_270576	F	M00055384B:D10	UC2-ColonMetLiver
5406	562524	2066.A13.gz43_270586	F	M00055378D:D04	UC2-ColonMetLiver
5407	465836	2066.J13.gz43_270595	F	M00055388B:B02	UC2-ColonMetLiver
5408	562701	2066.N13.gz43_270599	F	M00055392D:A06	UC2-ColonMetLiver
5409	561457	2066.O13.gz43_270600	F	M00055394B:C06	UC2-ColonMetLiver
5410	549082	2066.C14.gz43_270604	F	M00055381A:F02	UC2-ColonMetLiver
5411	418622	2066.H14.gz43_270609	F	M00055385D:D03	UC2-ColonMetLiver
5412	238196	2066.K14.gz43_270612	F	M00055389A:D08	UC2-ColonMetLiver
5413	560868	2066.D15.gz43_270621	F	M00055381D:D08	UC2-ColonMetLiver
5414	459764	2066.E15.gz43_270622	F	M00055382D:D04	UC2-ColonMetLiver
5415	555639	2066.M15.gz43_270630	F	M00055391B:H08	UC2-ColonMetLiver
5416	556011	2066.O15.gz43_270632	F	M00055394B:D08	UC2-ColonMetLiver
5417	468565	2066.A17.gz43_270650	F	M00055379A:D07	UC2-ColonMetLiver
5418	448949	2066.B17.gz43_270651	F	M00055380A:C06	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIE NT	CLONE ID	LIBRARY
5419	636532	2066.J17.gz43_270659	F	M00055388B:E01	UC2-ColonMetLiver
5420	561487	2066.P17.gz43_270665	F	M00055395B:C04	UC2-ColonMetLiver
5421	50604	2066.L18.gz43_270677	F	M00055390C:E06	UC2-ColonMetLiver
5422	557249	2066.J20.gz43_270707	F	M00055388B:H04	UC2-ColonMetLiver
5423	562849	2066.H21.gz43_270721	F	M00055386A:G05	UC2-ColonMetLiver
5424	562386	2066.C22.gz43_270732	F	M00055381B:C10	UC2-ColonMetLiver
5425	635965	2066.J22.gz43_270739	F	M00055388C:D01	UC2-ColonMetLiver
5426	493487	2066.D23.gz43_270749	F	M00055382B:E02	UC2-ColonMetLiver
5427	44015	2066.N23.gz43_270759	F	M00055393B:F04	UC2-ColonMetLiver
5428	559854	2066.F24.gz43_270767	F	M00055383D:H11	UC2-ColonMetLiver
5429	282015	2066.K24.gz43_270772	F	M00055389C:F12	UC2-ColonMetLiver
5430	561206	2067.F02.gz43_270799	F	M00055402A:A05	UC2-ColonMetLiver
5431	486834	2067.G02.gz43_270800	F	M00055402D:A11	UC2-ColonMetLiver
5432	550730	2067.K02.gz43_270804	F	M00055407B:G07	UC2-ColonMetLiver
5433	560838	2067.P03.gz43_270825	F	M00055412D:A12	UC2-ColonMetLiver
5434	556382	2067.E04.gz43_270830	F	M00055400D:G01	UC2-ColonMetLiver
5435	561236	2067.I05.gz43_270850	F	M00055405A:A02	UC2-ColonMetLiver
5436	562584	2067.J05.gz43_270851	F	M00055406B:E07	UC2-ColonMetLiver
5437	550135	2067.N05.gz43_270855	F	M00055410C:G08	UC2-ColonMetLiver
5438	556380	2067.B06.gz43_270859	F	M00055397A:H07	UC2-ColonMetLiver
5439	511792	2067.C06.gz43_270860	F	M00055398C:F07	UC2-ColonMetLiver
5440	452761	2067.I06.gz43_270866	F	M00055405A:C01	UC2-ColonMetLiver
5441	465284	2067.K06.gz43_270868	F	M00055407C:E04	UC2-ColonMetLiver
5442	419489	2067.I07.gz43_270882	F	M00055405A:G11	UC2-ColonMetLiver
5443	540000	2067.P07.gz43_270889	F	M00055413A:A02	UC2-ColonMetLiver
5444	556105	2067.K08.gz43_270900	F	M00055407C:G04	UC2-ColonMetLiver
5445	562001	2067.N08.gz43_270903	F	M00055410C:H11	UC2-ColonMetLiver
5446	288626	2067.N09.gz43_270919	F	M00055410D:B02	UC2-ColonMetLiver
5447	561325	2067.H10.gz43_270929	F	M00055404A:B10	UC2-ColonMetLiver
5448	554742	2067.I10.gz43_270930	F	M00055405B:H05	UC2-ColonMetLiver
5449	560003	2067.A11.gz43_270938	F	M00055396B:C06	UC2-ColonMetLiver
5450	555856	2067.G11.gz43_270944	F	M00055403A:C07	UC2-ColonMetLiver
5451	633189	2067.N11.gz43_270951	F	M00055410D:G01	UC2-ColonMetLiver
5452	562147	2067.B12.gz43_270955	F	M00055397D:A01	UC2-ColonMetLiver
5453	553766	2067.H12.gz43_270961	F	M00055404A:D08	UC2-ColonMetLiver
5454	63669	2067.I13.gz43_270978	F	M00055405C:C04	UC2-ColonMetLiver
5455	491260	2067.J13.gz43_270979	F	M00055406D:A03	UC2-ColonMetLiver
5456	559776	2067.L13.gz43_270981	F	M00055408C:E04	UC2-ColonMetLiver
5457	561922	2067.A14.gz43_270986	F	M00055396B:G02	UC2-ColonMetLiver
5458	559102	2067.I14.gz43_270994	F	M00055405C:H07	UC2-ColonMetLiver
5459	440833	2067.O14.gz43_271000	F	M00055412A:C05	UC2-ColonMetLiver
5460	561212	2067.K15.gz43_271012	F	M00055408A:A05	UC2-ColonMetLiver



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5461	556734	2067.O15.gz43_271016	F	M00055412A:F09	UC2-ColonMetLiver
5462	487893	2067.J16.gz43_271027	F	M00055406D:C10	UC2-ColonMetLiver
5463	558180	2067.G18.gz43_271056	F	M00055403B:A10	UC2-ColonMetLiver
5464	557853	2067.J18.gz43_271059	F	M00055406D:G12	UC2-ColonMetLiver
5465	446171	2067.P19.gz43_271081	F	M00055413C:B09	UC2-ColonMetLiver
5466	561438	2067.B20.gz43_271083	F	M00055398A:C11	UC2-ColonMetLiver
5467	551617	2067.I20.gz43_271090	F	M00055405D:G05	UC2-ColonMetLiver
5468	469852	2067.B21.gz43_271099	F	M00055398B:A05	UC2-ColonMetLiver
5469	556126	2067.P21.gz43_271113	F	M00055413C:G09	UC2-ColonMetLiver
5470	551928	2067.F22.gz43_271119	F	M00055402C:C12	UC2-ColonMetLiver
5471	562236	2067.A23.gz43_271130	F	M00055397A:B10	UC2-ColonMetLiver
5472	456687	2067.B23.gz43_271131	F	M00055398B:C05	UC2-ColonMetLiver
5473	530715	2067.H23.gz43_271137	F	M00055404C:C11	UC2-ColonMetLiver
5474	66014	2067.K23.gz43_271140	F	M00055408A:F12	UC2-ColonMetLiver
5475	100821	2067.L23.gz43_271141	F	M00055409A:E06	UC2-ColonMetLiver
5476	154980	2067.A24.gz43_271146	F	M00055397A:C06	UC2-ColonMetLiver
5477	561236	2067.G24.gz43_271152	F	M00055403B:G12	UC2-ColonMetLiver
5478	516043	2067.L24.gz43_271157	F	M00055409A:E10	UC2-ColonMetLiver
5479	559380	2068.K01.gz43_271172	F	M00055424B:D04	UC2-ColonMetLiver
5480	449795	2068.O03.gz43_271208	F	M00055474A:G06	UC2-ColonMetLiver
5481	550166	2068.D04.gz43_271213	F	M00055417C:A05	UC2-ColonMetLiver
5482	561646	2068.F04.gz43_271215	F	M00055419D:D04	UC2-ColonMetLiver
5483	561112	2068.D05.gz43_271229	F	M00055417C:G03	UC2-ColonMetLiver
5484	418562	2068.E05.gz43_271230	F	M00055418C:D08	UC2-ColonMetLiver
5485	559385	2068.J05.gz43_271235	F	M00055423C:D05	UC2-ColonMetLiver
5486	561411	2068.M05.gz43_271238	F	M00055472A:B12	UC2-ColonMetLiver
5487	561770	2068.C07.gz43_271260	F	M00055416B:F11	UC2-ColonMetLiver
5488	557760	2068.D08.gz43_271277	F	M00055417D:D08	UC2-ColonMetLiver
5489	468672	2068.M08.gz43_271286	F	M00055472A:F02	UC2-ColonMetLiver
5490	556490	2068.N08.gz43_271287	F	M00055473B:D01	UC2-ColonMetLiver
5491	550018	2068.F09.gz43_271295	F	M00055419D:H07	UC2-ColonMetLiver
5492	561837	2068.H09.gz43_271297	F	M00055421C:F06	UC2-ColonMetLiver
5493	554028	2068.I09.gz43_271298	F	M00055422C:E10	UC2-ColonMetLiver
5494	470667	2068.D10.gz43_271309	F	M00055417D:H08	UC2-ColonMetLiver
5495	552561	2068.E10.gz43_271310	F	M00055418D:A03	UC2-ColonMetLiver
5496	556793	2068.G10.gz43_271312	F	M00055421A:A09	UC2-ColonMetLiver
5497	561718	2068.N10.gz43_271319	F	M00055473B:E10	UC2-ColonMetLiver
5498	630348	2068.E11.gz43_271326	F	M00055418D:B05	UC2-ColonMetLiver
5499	491728	2068.H11.gz43_271329	F	M00055421C:G07	UC2-ColonMetLiver
5500	562477	2068.C12.gz43_271340	F	M00055416D:B03	UC2-ColonMetLiver
5501	402836	2068.D12.gz43_271341	F	M00055418A:C12	UC2-ColonMetLiver
5502	556511	2068.J12.gz43_271347	F	M00055424A:A08	UC2-ColonMetLiver

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIE NT	CLONE ID	LIBRARY
5503	559076	2068.N12.gz43_271351	F	M00055473C:A05	UC2-ColonMetLiver
5504	417426	2068.P12.gz43_271353	F	M00055475D:A05	UC2-ColonMetLiver
5505	456520	2068.A13.gz43_271354	F	M00055414C:C02	UC2-ColonMetLiver
5506	492982	2068.J13.gz43_271363	F	M00055424A:C10	UC2-ColonMetLiver
5507	558679	2068.C14.gz43_271372	F	M00055416D:D11	UC2-ColonMetLiver
5508	561707	2068.F14.gz43_271375	F	M00055420A:E12	UC2-ColonMetLiver
5509	561180	2068.I14.gz43_271378	F	M00055423A:A10	UC2-ColonMetLiver
5510	554953	2068.K14.gz43_271380	F	M00055425A:H03	UC2-ColonMetLiver
5511	492876	2068.L14.gz43_271381	F	M00055471C:B01	UC2-ColonMetLiver
5512	555933	2068.O14.gz43_271384	F	M00055474C:H12	UC2-ColonMetLiver
5513	562137	2068.P14.gz43_271385	F	M00055475D:A10	UC2-ColonMetLiver
5514	561500	2068.B15.gz43_271387	F	M00055415D:C12	UC2-ColonMetLiver
5515	561682	2068.D15.gz43_271389	F	M00055418A:E07	UC2-ColonMetLiver
5516	560118	2068.I15.gz43_271394	F	M00055423A:D02	UC2-ColonMetLiver
5517	512392	2068.J15.gz43_271395	F	M00055424A:F04	UC2-ColonMetLiver
5518	449356	2068.I16.gz43_271410	F	M00055423A:G08	UC2-ColonMetLiver
5519	447098	2068.L16.gz43_271413	F	M00055471C:D04	UC2-ColonMetLiver
5520	522220	2068.N16.gz43_271415	F	M00055473C:H05	UC2-ColonMetLiver
5521	453715	2068.P16.gz43_271417	F	M00055475D:B07	UC2-ColonMetLiver
5522	554774	2068.D17.gz43_271421	F	M00055418A:H04	UC2-ColonMetLiver
5523	553987	2068.I17.gz43_271426	F	M00055423B:A06	UC2-ColonMetLiver
5524	561645	2068.K17.gz43_271428	F	M00055425B:D12	UC2-ColonMetLiver
5525	549511	2068.M18.gz43_271446	F	M00055472C:G11	UC2-ColonMetLiver
5526	560700	2068.P18.gz43_271449	F	M00055475D:G08	UC2-ColonMetLiver
5527	493410	2068.K20.gz43_271476	F	M00055425B:F06	UC2-ColonMetLiver
5528	482425	2068.A21.gz43_271482	F	M00055414D:G10	UC2-ColonMetLiver
5529	561497	2068.B21.gz43_271483	F	M00055416A:C04	UC2-ColonMetLiver
5530	131130	2068.C21.gz43_271484	F	M00055417A:G11	UC2-ColonMetLiver
5531	524736	2068.F22.gz43_271503	F	M00055420C:E08	UC2-ColonMetLiver
5532	58680	2068.G22.gz43_271504	F	M00055421B:E05	UC2-ColonMetLiver
5533	562302	2068.N22.gz43_271511	F	M00055474A:B05	UC2-ColonMetLiver
5534	514824	2079.M01.gz43_271558	F	M00043021D:F10	UC3-NormColon
5535	452523	2079.P02.gz43_271577	F	M00043031A:B01	UC3-NormColon
5536	453572	2079.K04.gz43_271604	F	M00043012A:F06	UC3-NormColon
5537	406092	2079.I05.gz43_271618	F	M00043007D:F07	UC3-NormColon
5538	452759	2079.O05.gz43_271624	F	M00043029A:E11	UC3-NormColon
5539	456756	2079.B06.gz43_271627	F	M00042983D:A03	UC3-NormColon
5540	505226	2079.C06.gz43_271628	F	M00042987C:E04	UC3-NormColon
5541	238196	2079.D06.gz43_271629	F	M00042991C:C02	UC3-NormColon
5542	235874	2079.H06.gz43_271633	F	M00043005A:B06	UC3-NormColon
5543	512432	2079.O07.gz43_271656	F	M00043029B:C09	UC3-NormColon
5544	269927	2079.O09.gz43_271688	F	M00043029B:F09	UC3-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5545	449510	2079.K10.gz43_271700	F	M00043012D:A06	UC3-NormColon
5546	516799	2079.O10.gz43_271704	F	M00043029B:G10	UC3-NormColon
5547	455716	2079.E11.gz43_271710	F	M00042995C:E04	UC3-NormColon
5548	452976	2079.G11.gz43_271712	F	M00043003A:H07	UC3-NormColon
5549	452031	2079.N11.gz43_271719	F	M00043026D:D06	UC3-NormColon
5550	452957	2079.P11.gz43_271721	F	M00043032B:H01	UC3-NormColon
5551	452830	2079.D12.gz43_271725	F	M00042991D:F06	UC3-NormColon
5552	452220	2079.C13.gz43_271740	F	M00042988D:G10	UC3-NormColon
5553	500896	2079.K13.gz43_271748	F	M00043013B:A06	UC3-NormColon
5554	455855	2079.L13.gz43_271749	F	M00043017D:B06	UC3-NormColon
5555	513381	2079.M13.gz43_271750	F	M00043023D:D06	UC3-NormColon
5556	448200	2079.B14.gz43_271755	F	M00042985B:C05	UC3-NormColon
5557	509027	2079.F14.gz43_271759	F	M00043000C:H06	UC3-NormColon
5558	452618	2079.N14.gz43_271767	F	M00043027B:C04	UC3-NormColon
5559	510254	2079.C15.gz43_271772	F	M00042989C:A06	UC3-NormColon
5560	451812	2079.D15.gz43_271773	F	M00042992B:B03	UC3-NormColon
5561	452392	2079.G15.gz43_271776	F	M00043003C:A02	UC3-NormColon
5562	504812	2079.I15.gz43_271778	F	M00043008D:E12	UC3-NormColon
5563	504431	2079.J15.gz43_271779	F	M00043011B:D03	UC3-NormColon
5564	452440	2079.L15.gz43_271781	F	M00043020A:A03	UC3-NormColon
5565	450225	2079.B16.gz43_271787	F	M00042985C:B03	UC3-NormColon
5566	511348	2079.C16.gz43_271788	F	M00042989C:B07	UC3-NormColon
5567	502343	2079.D16.gz43_271789	F	M00042992B:B11	UC3-NormColon
5568	451850	2079.F16.gz43_271791	F	M00043001A:C10	UC3-NormColon
5569	455117	2079.K16.gz43_271796	F	M00043013C:A01	UC3-NormColon
5570	452922	2079.L16.gz43_271797	F	M00043020A:G12	UC3-NormColon
5571	504501	2079.B17.gz43_271803	F	M00042985C:D02	UC3-NormColon
5572	503122	2079.F17.gz43_271807	F	M00043001B:C01	UC3-NormColon
5573	508126	2079.I17.gz43_271810	F	M00043008D:H09	UC3-NormColon
5574	448687	2079.A18.gz43_271818	F	M00042982C:G02	UC3-NormColon
5575	451491	2079.B18.gz43_271819	F	M00042985C:D04	UC3-NormColon
5576	452969	2079.F18.gz43_271823	F	M00043001B:E02	UC3-NormColon
5577	452866	2079.G18.gz43_271824	F	M00043003C:G10	UC3-NormColon
5578	446936	2079.K18.gz43_271828	F	M00043013D:F03	UC3-NormColon
5579	452445	2079.L18.gz43_271829	F	M00043021A:A09	UC3-NormColon
5580	451092	2079.N18.gz43_271831	F	M00043027D:G12	UC3-NormColon
5581	75212	2079.D19.gz43_271837	F	M00042992D:H02	UC3-NormColon
5582	452325	2079.F19.gz43_271839	F	M00043001B:H01	UC3-NormColon
5583	502984	2079.I19.gz43_271842	F	M00043009B:C09	UC3-NormColon
5584	508125	2079.J19.gz43_271843	F	M00043011C:H09	UC3-NormColon
5585	452528	2079.L19.gz43_271845	F	M00043021A:B06	UC3-NormColon
5586	509505	2079.C20.gz43_271852	F	M00042989D:A07	UC3-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5587	455132	2079.G20.gz43_271856	F	M00043003D:D10	UC3-NormColon
5588	452160	2079.I20.gz43_271858	F	M00043009B:F11	UC3-NormColon
5589	453079	2079.M20.gz43_271862	F	M00043024B:H11	UC3-NormColon
5590	448813	2079.C21.gz43_271868	F	M00042990A:E05	UC3-NormColon
5591	513178	2079.D21.gz43_271869	F	M00042993A:D12	UC3-NormColon
5592	453804	2079.E21.gz43_271870	F	M00042996D:D12	UC3-NormColon
5593	453078	2079.L21.gz43_271877	F	M00043021A:H06	UC3-NormColon
5594	452611	2079.P21.gz43_271881	F	M00043033C:C05	UC3-NormColon
5595	504880	2079.A22.gz43_271882	F	M00042983A:E09	UC3-NormColon
5596	447445	2079.B22.gz43_271883	F	M00042986B:E06	UC3-NormColon
5597	503625	2079.G22.gz43_271888	F	M00043004A:C08	UC3-NormColon
5598	502614	2079.J22.gz43_271891	F	M00043011D:C12	UC3-NormColon
5599	454226	2079.K22.gz43_271892	F	M00043014B:G12	UC3-NormColon
5600	452973	2079.L22.gz43_271893	F	M00043021B:H03	UC3-NormColon
5601	456755	2079.M22.gz43_271894	F	M00043025A:C01	UC3-NormColon
5602	515127	2079.O22.gz43_271896	F	M00043030C:F03	UC3-NormColon
5603	507450	2079.F23.gz43_271903	F	M00043002A:G09	UC3-NormColon
5604	448381	2079.G23.gz43_271904	F	M00043004A:C10	UC3-NormColon
5605	505933	2079.K23.gz43_271908	F	M00043014C:F07	UC3-NormColon
5606	452648	2079.M23.gz43_271910	F	M00043025A:D09	UC3-NormColon
5607	453038	2079.N23.gz43_271911	F	M00043028C:H09	UC3-NormColon
5608	452611	2079.P23.gz43_271913	F	M00043033C:D05	UC3-NormColon
5609	501534	2079.B24.gz43_271915	F	M00042986C:B07	UC3-NormColon
5610	454849	2079.F24.gz43_271919	F	M00043002B:E06	UC3-NormColon
5611	366607	2079.H24.gz43_271921	F	M00043007B:D12	UC3-NormColon
5612	507066	2079.K24.gz43_271924	F	M00043014C:G06	UC3-NormColon
5613	519378	2090.B01.gz43_273908	F	M00043153B:B09	UC3-PrimColon
5614	453946	2090.H01.gz43_273914	F	M00043172C:G06	UC3-PrimColon
5615	527679	2090.L01.gz43_273918	F	M00043185B:D02	UC3-PrimColon
5616	454463	2090.P01.gz43_273922	F	M00043201D:D03	UC3-PrimColon
5617	521840	2090.D02.gz43_273926	F	M00043160B:E05	UC3-PrimColon
5618	528981	2090.M02.gz43_273935	F	M00043189C:F08	UC3-PrimColon
5619	528404	2090.C03.gz43_273941	F	M00043156C:E05	UC3-PrimColon
5620	523674	2090.N04.gz43_273968	F	M00043193C:G11	UC3-PrimColon
5621	446768	2090.F05.gz43_273976	F	M00043168C:F03	UC3-PrimColon
5622	128749	2090.H06.gz43_273994	F	M00043172D:H03	UC3-PrimColon
5623	525781	2090.K06.gz43_273997	F	M00043183C:B08	UC3-PrimColon
5624	452775	2090.N06.gz43_274000	F	M00043193C:H09	UC3-PrimColon
5625	524721	2090.L07.gz43_274014	F	M00043186C:A11	UC3-PrimColon
5626	454202	2090.M07.gz43_274015	F	M00043190A:B10	UC3-PrimColon
5627	452325	2090.J08.gz43_274028	F	M00043180C:B02	UC3-PrimColon
5628	453804	2090.F09.gz43_274040	F	M00043169A:F05	UC3-PrimColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5629	454007	2090.O09.gz43_274049	F	M00043197D:H12	UC3-PrimColon
5630	425455	2090.L10.gz43_274062	F	M00043186D:B09	UC3-PrimColon
5631	453354	2090.H11.gz43_274074	F	M00043173B:F03	UC3-PrimColon
5632	525315	2090.I11.gz43_274075	F	M00043176C:A01	UC3-PrimColon
5633	453890	2090.N11.gz43_274080	F	M00043194A:G06	UC3-PrimColon
5634	454460	2090.A12.gz43_274083	F	M00043151B:D02	UC3-PrimColon
5635	522869	2090.C12.gz43_274085	F	M00043158A:F03	UC3-PrimColon
5636	454664	2090.I13.gz43_274107	F	M00043176C:E12	UC3-PrimColon
5637	528369	2090.L13.gz43_274110	F	M00043187C:E06	UC3-PrimColon
5638	526539	2090.J14.gz43_274124	F	M00043181C:C10	UC3-PrimColon
5639	452182	2090.O14.gz43_274129	F	M00043199A:F03	UC3-PrimColon
5640	520599	2090.H15.gz43_274138	F	M00043173C:D12	UC3-PrimColon
5641	530971	2090.L16.gz43_274158	F	M00043187D:H04	UC3-PrimColon
5642	289316	2090.N16.gz43_274160	F	M00043194D:E10	UC3-PrimColon
5643	454731	2090.A17.gz43_274163	F	M00043152A:F10	UC3-PrimColon
5644	453730	2090.D17.gz43_274166	F	M00043162D:E06	UC3-PrimColon
5645	450784	2090.G17.gz43_274169	F	M00043171D:G08	UC3-PrimColon
5646	404081	2090.M17.gz43_274175	F	M00043191C:G05	UC3-PrimColon
5647	456723	2090.A18.gz43_274179	F	M00043152A:G08	UC3-PrimColon
5648	526449	2090.C18.gz43_274181	F	M00043159A:C01	UC3-PrimColon
5649	413693	2090.H18.gz43_274186	F	M00043174B:B06	UC3-PrimColon
5650	454311	2090.J18.gz43_274188	F	M00043182B:C02	UC3-PrimColon
5651	526733	2090.H20.gz43_274218	F	M00043174C:C06	UC3-PrimColon
5652	432159	2090.K20.gz43_274221	F	M00043184D:G06	UC3-PrimColon
5653	453983	2090.M20.gz43_274223	F	M00043192B:H06	UC3-PrimColon
5654	518172	2090.N20.gz43_274224	F	M00043195D:A05	UC3-PrimColon
5655	454629	2090.P22.gz43_274258	F	M00043210C:E08	UC3-PrimColon
5656	530939	2090.A23.gz43_274259	F	M00043152B:H04	UC3-PrimColon
5657	234270	2090.G23.gz43_274265	F	M00043172C:B05	UC3-PrimColon
5658	529742	2090.I24.gz43_274283	F	M00043178C:G06	UC3-PrimColon
5659	404461	2092.G04.gz43_274444	F	M00043438B:E10	UC3-ColonMetLiver
5660	451023	2092.I04.gz43_274446	F	M00043448D:H09	UC3-ColonMetLiver
5661	535436	2092.G05.gz43_274460	F	M00043438C:D12	UC3-ColonMetLiver
5662	456001	2092.N05.gz43_274467	F	M00043470C:A01	UC3-ColonMetLiver
5663	450724	2092.O06.gz43_274484	F	M00043478B:D01	UC3-ColonMetLiver
5664	539142	2092.A07.gz43_274486	F	M00042592A:H02	UC3-ColonMetLiver
5665	450914	2092.K07.gz43_274496	F	M00043455C:G07	UC3-ColonMetLiver
5666	455855	2092.P07.gz43_274501	F	M00043484D:H08	UC3-ColonMetLiver
5667	537451	2092.F08.gz43_274507	F	M00043433A:F02	UC3-ColonMetLiver
5668	535123	2092.G08.gz43_274508	F	M00043439C:D05	UC3-ColonMetLiver
5669	452830	2092.J08.gz43_274511	F	M00043452D:D05	UC3-ColonMetLiver
5670	534054	2092.L08.gz43_274513	F	M00043460D:C03	UC3-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5671	162851	2092.M08.gz43_274514	F	M00043465B:G08	UC3-ColonMetLiver
5672	455289	2092.D09.gz43_274521	F	M00043420C:C02	UC3-ColonMetLiver
5673	456020	2092.H09.gz43_274525	F	M00043446B:H01	UC3-ColonMetLiver
5674	448946	2092.I09.gz43_274526	F	M00043449C:H09	UC3-ColonMetLiver
5675	539353	2092.L09.gz43_274529	F	M00043460D:H01	UC3-ColonMetLiver
5676	450658	2092.P09.gz43_274533	F	M00043485A:C04	UC3-ColonMetLiver
5677	544355	2092.E10.gz43_274538	F	M00043427C:E11	UC3-ColonMetLiver
5678	452128	2092.F10.gz43_274539	F	M00043434A:H02	UC3-ColonMetLiver
5679	447534	2092.I10.gz43_274542	F	M00043449D:A06	UC3-ColonMetLiver
5680	455256	2092.P10.gz43_274549	F	M00043485B:C09	UC3-ColonMetLiver
5681	455201	2092.C11.gz43_274552	F	M00042640C:C10	UC3-ColonMetLiver
5682	535129	2092.F11.gz43_274555	F	M00043434B:D06	UC3-ColonMetLiver
5683	455808	2092.H11.gz43_274557	F	M00043446C:E04	UC3-ColonMetLiver
5684	215366	2092.I11.gz43_274558	F	M00043449D:E09	UC3-ColonMetLiver
5685	456254	2092.J11.gz43_274559	F	M00043453B:C06	UC3-ColonMetLiver
5686	536415	2092.N11.gz43_274563	F	M00043472A:E06	UC3-ColonMetLiver
5687	452801	2092.F12.gz43_274571	F	M00043434B:E04	UC3-ColonMetLiver
5688	400258	2092.H12.gz43_274573	F	M00043446C:E08	UC3-ColonMetLiver
5689	546121	2092.J12.gz43_274575	F	M00043453B:F02	UC3-ColonMetLiver
5690	454621	2092.K12.gz43_274576	F	M00043457C:B12	UC3-ColonMetLiver
5691	455162	2092.D13.gz43_274585	F	M00043422B:C03	UC3-ColonMetLiver
5692	543429	2092.P13.gz43_274597	F	M00043486B:D02	UC3-ColonMetLiver
5693	456249	2092.I14.gz43_274606	F	M00043450B:C11	UC3-ColonMetLiver
5694	531461	2092.E15.gz43_274618	F	M00043428C:A08	UC3-ColonMetLiver
5695	455572	2092.H15.gz43_274621	F	M00043447A:F02	UC3-ColonMetLiver
5696	456783	2092.I15.gz43_274622	F	M00043450B:H05	UC3-ColonMetLiver
5697	2544	2092.N15.gz43_274627	F	M00043473C:B11	UC3-ColonMetLiver
5698	543431	2092.P15.gz43_274629	F	M00043486C:D02	UC3-ColonMetLiver
5699	402534	2092.O16.gz43_274644	F	M00043481A:G02	UC3-ColonMetLiver
5700	454563	2092.I17.gz43_274654	F	M00043450C:F11	UC3-ColonMetLiver
5701	541901	2092.K17.gz43_274656	F	M00043459A:B08	UC3-ColonMetLiver
5702	536225	2092.L17.gz43_274657	F	M00043462C:E12	UC3-ColonMetLiver
5703	455379	2092.M17.gz43_274658	F	M00043468C:D08	UC3-ColonMetLiver
5704	456567	2092.P17.gz43_274661	F	M00043486C:F07	UC3-ColonMetLiver
5705	539804	2092.C18.gz43_274664	F	M00043417A:H12	UC3-ColonMetLiver
5706	452618	2092.N18.gz43_274675	F	M00043473D:D11	UC3-ColonMetLiver
5707	543855	2092.J19.gz43_274687	F	M00043453D:D02	UC3-ColonMetLiver
5708	415326	2092.L19.gz43_274689	F	M00043462D:C09	UC3-ColonMetLiver
5709	455117	2092.B20.gz43_274695	F	M00042600D:B08	UC3-ColonMetLiver
5710	455601	2092.C20.gz43_274696	F	M00043417B:F12	UC3-ColonMetLiver
5711	455254	2092.E20.gz43_274698	F	M00043430D:C01	UC3-ColonMetLiver
5712	402916	2092.I20.gz43_274702	F	M00043451A:B02	UC3-ColonMetLiver

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SEQ ID NO	CLUSTER	SEQ NAME	ORIE NT	CLONE ID	LIBRARY
5713	455864	2092.N20.gz43_274707	F	M00043474C:H05	UC3-ColonMetLiver
5714	27586	2092.P20.gz43_274709	F	M00043489C:H06	UC3-ColonMetLiver
5715	452392	2092.B21.gz43_274711	F	M00042600D:E11	UC3-ColonMetLiver
5716	447380	2092.C21.gz43_274712	F	M00043417C:F12	UC3-ColonMetLiver
5717	448250	2092.I21.gz43_274718	F	M00043451B:D08	UC3-ColonMetLiver
5718	536171	2092.B22.gz43_274727	F	M00042637C:E12	UC3-ColonMetLiver
5719	455501	2092.H22.gz43_274733	F	M00043448B:E08	UC3-ColonMetLiver
5720	455808	2092.O22.gz43_274740	F	M00043483B:G01	UC3-ColonMetLiver
5721	422223	2092.C23.gz43_274744	F	M00043418A:A06	UC3-ColonMetLiver
5722	455814	2092.O23.gz43_274756	F	M00043483B:G11	UC3-ColonMetLiver
5723	538582	2092.H24.gz43_274765	F	M00043448C:G07	UC3-ColonMetLiver
5724	447238	2092.I24.gz43_274766	F	M00043451C:H03	UC3-ColonMetLiver
5725	456577	2092.P24.gz43_274773	F	M00043490A:F03	UC3-ColonMetLiver
5726	11576	2176.F01.gz43_281685	F	M00039503B:G05	HMEC-Unt
5727	401426	2176.P01.gz43_281695	F	M00039605D:E02	HMEC-Unt
5728	409330	2176.B02.gz43_281697	F	M00039363B:H10	HMEC-Unt
5729	407195	2176.C02.gz43_281698	F	M00039369D:D11	HMEC-Unt
5730	411985	2176.D02.gz43_281699	F	M00039379A:D03	HMEC-Unt
5731	412621	2176.F02.gz43_281701	F	M00039503D:E08	HMEC-Unt
5732	407711	2176.H02.gz43_281703	F	M00039514B:E07	HMEC-Unt
5733	411113	2176.G03.gz43_281718	F	M00039508D:C03	HMEC-Unt
5734	402411	2176.I04.gz43_281736	F	M00039523A:D09	HMEC-Unt
5735	147279	2176.F06.gz43_281765	F	M00039504B:F05	HMEC-Unt
5736	400628	2176.L06.gz43_281771	F	M00039566D:E08	HMEC-Unt
5737	407443	2176.C07.gz43_281778	F	M00039371A:E01	HMEC-Unt
5738	413346	2176.N07.gz43_281789	F	M00039592C:F09	HMEC-Unt
5739	125543	2176.O07.gz43_281790	F	M00039599A:E08	HMEC-Unt
5740	202308	2176.P07.gz43_281791	F	M00039606C:B07	HMEC-Unt
5741	400428	2176.K08.gz43_281802	F	M00039562A:D10	HMEC-Unt
5742	400426	2176.H09.gz43_281815	F	M00039516C:H06	HMEC-Unt
5743	402147	2176.P09.gz43_281823	F	M00039607A:F05	HMEC-Unt
5744	400233	2176.K10.gz43_281834	F	M00039562D:B02	HMEC-Unt
5745	408986	2176.K11.gz43_281850	F	M00039562D:G01	HMEC-Unt
5746	400171	2176.B12.gz43_281857	F	M00039366C:B10	HMEC-Unt
5747	403671	2176.C12.gz43_281858	F	M00039373B:B09	HMEC-Unt
5748	400047	2176.A13.gz43_281872	F	M00039184A:A08	HMEC-Unt
5749	404736	2176.B13.gz43_281873	F	M00039366D:A02	HMEC-Unt
5750	413627	2176.F13.gz43_281877	F	M00039505B:G07	HMEC-Unt
5751	407260	2176.K13.gz43_281882	F	M00039563C:D01	HMEC-Unt
5752	155374	2176.M13.gz43_281884	F	M00039586A:C03	HMEC-Unt
5753	409612	2176.I14.gz43_281896	F	M00039525B:H03	HMEC-Unt
5754	402411	2176.A16.gz43_281920	F	M00039184C:C05	HMEC-Unt

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SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5755	411124	2176.C17.gz43_281938	F	M00039375A:C09	HMEC-Unt
5756	412416	2176.J17.gz43_281945	F	M00039534D:E07	HMEC-Unt
5757	406734	2176.M17.gz43_281948	F	M00039586D:D05	HMEC-Unt
5758	408306	2176.K18.gz43_281962	F	M00039564B:F08	HMEC-Unt
5759	1054	2176.E19.gz43_281972	F	M00039502D:H03	HMEC-Unt
5760	406855	2176.I19.gz43_281976	F	M00039527B:D06	HMEC-Unt
5761	400454	2176.H20.gz43_281991	F	M00039521A:D02	HMEC-Unt
5762	402147	2176.J20.gz43_281993	F	M00039536B:E10	HMEC-Unt
5763	202308	2176.M20.gz43_281996	F	M00039588A:H12	HMEC-Unt
5764	413997	2176.J21.gz43_282009	F	M00039536B:H03	HMEC-Unt
5765	409589	2176.K21.gz43_282010	F	M00039564C:H05	HMEC-Unt
5766	409262	2176.M21.gz43_282012	F	M00039588B:H02	HMEC-Unt
5767	405932	2176.H22.gz43_282023	F	M00039521C:B01	HMEC-Unt
5768	20517	2176.M22.gz43_282028	F	M00039588D:F10	HMEC-Unt
5769	413915	2176.P23.gz43_282047	F	M00039610A:G11	HMEC-Unt
5770	412483	2176.F24.gz43_282053	F	M00039507D:E03	HMEC-Unt
5771	402392	2176.G24.gz43_282054	F	M00039514A:G03	HMEC-Unt
5772	401510	2176.J24.gz43_282057	F	M00039537B:F06	HMEC-Unt
5773	408649	2176.L24.gz43_282059	F	M00039583A:G09	HMEC-Unt
5774	418682	2178.K02.gz43_282160	F	M00040183B:C06	HMEC-bFGF
5775	417259	2178.E04.gz43_282186	F	M00040141A:G10	HMEC-bFGF
5776	20517	2178.P04.gz43_282197	F	M00040235C:D02	HMEC-bFGF
5777	414821	2178.G05.gz43_282204	F	M00040160C:A04	HMEC-bFGF
5778	402534	2178.K05.gz43_282208	F	M00040183D:C08	HMEC-bFGF
5779	402411	2178.D07.gz43_282233	F	M00040134A:A07	HMEC-bFGF
5780	419255	2178.L07.gz43_282241	F	M00040188B:E05	HMEC-bFGF
5781	417426	2178.G11.gz43_282300	F	M00040161C:H06	HMEC-bFGF
5782	415527	2178.G12.gz43_282316	F	M00040161D:C03	HMEC-bFGF
5783	418340	2178.J12.gz43_282319	F	M00040181B:B06	HMEC-bFGF
5784	403154	2178.L12.gz43_282321	F	M00040189D:A06	HMEC-bFGF
5785	403837	2178.J13.gz43_282335	F	M00040181B:C05	HMEC-bFGF
5786	418482	2178.L14.gz43_282353	F	M00040190B:C02	HMEC-bFGF
5787	419751	2178.C15.gz43_282360	F	M00039760B:F12	HMEC-bFGF
5788	402070	2178.B16.gz43_282375	F	M00039752D:D07	HMEC-bFGF
5789	402070	2178.N16.gz43_282387	F	M00040227A:E07	HMEC-bFGF
5790	420504	2178.C18.gz43_282408	F	M00039760C:H07	HMEC-bFGF
5791	147279	2178.P19.gz43_282437	F	M00040248A:G09	HMEC-bFGF
5792	402353	2178.H20.gz43_282445	F	M00040171B:H03	HMEC-bFGF
5793	416914	2178.L20.gz43_282449	F	M00040196B:F10	HMEC-bFGF
5794	163970	2178.E21.gz43_282458	F	M00040145B:C12	HMEC-bFGF
5795	416762	2178.O21.gz43_282468	F	M00040233C:F09	HMEC-bFGF
5796	57183	2178.M22.gz43_282482	F	M00040222A:E06	HMEC-bFGF



Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5797	403306	2184.D01.gz43_282670	F	M00039950C:C05	HMEC-VEGF
5798	402298	2184.L01.gz43_282678	F	M00040328D:A03	HMEC-VEGF
5799	420958	2184.K02.gz43_282693	F	M00040322B:A08	HMEC-VEGF
5800	423884	2184.A03.gz43_282699	F	M00039747A:H06	HMEC-VEGF
5801	268336	2184.J04.gz43_282724	F	M00040318C:B09	HMEC-VEGF
5802	422590	2184.O07.gz43_282777	F	M00040364B:E11	HMEC-VEGF
5803	402298	2184.A08.gz43_282779	F	M00039749B:G05	HMEC-VEGF
5804	423534	2184.J11.gz43_282836	F	M00040319D:G10	HMEC-VEGF
5805	423008	2184.K13.gz43_282869	F	M00040323D:F04	HMEC-VEGF
5806	424723	2184.N13.gz43_282872	F	M00040347B:B11	HMEC-VEGF
5807	20517	2184.D16.gz43_282910	F	M00039958D:D05	HMEC-VEGF
5808	403306	2184.A17.gz43_282923	F	M00039750C:F08	HMEC-VEGF
5809	140224	2184.A22.gz43_283003	F	M00039762C:D11	HMEC-VEGF
5810	402298	2184.G24.gz43_283041	F	M00040294B:E09	HMEC-VEGF
5811	468930	1564.A01.gz43_296552	F	M00042709B:G05	UC2-NormColon
5812	463143	1564.B01.gz43_296553	F	M00042711B:H04	UC2-NormColon
5813	465785	1564.C01.gz43_296554	F	M00042713B:C08	UC2-NormColon
5814	453766	1564.I01.gz43_296560	F	M00042724A:G02	UC2-NormColon
5815	462398	1564.J01.gz43_296561	F	M00042726D:G11	UC2-NormColon
5816	390563	1564.O01.gz43_296566	F	M00042737B:C07	UC2-NormColon
5817	447189	1564.C03.gz43_296586	F	M00042713B:F03	UC2-NormColon
5818	462348	1564.H03.gz43_296591	F	M00042722A:G08	UC2-NormColon
5819	446740	1564.O04.gz43_296614	F	M00042737C:C07	UC2-NormColon
5820	447268	1564.C05.gz43_296618	F	M00042713C:B08	UC2-NormColon
5821	461316	1564.K05.gz43_296626	F	M00042729A:F11	UC2-NormColon
5822	420686	1564.N05.gz43_296629	F	M00042735C:G02	UC2-NormColon
5823	447579	1564.O05.gz43_296630	F	M00042737C:E03	UC2-NormColon
5824	447006	1564.B06.gz43_296633	F	M00042711C:H10	UC2-NormColon
5825	463824	1564.N06.gz43_296645	F	M00042735D:A07	UC2-NormColon
5826	461135	1564.G07.gz43_296654	F	M00042720C:E03	UC2-NormColon
5827	388688	1564.A08.gz43_296664	F	M00042710A:G10	UC2-NormColon
5828	462986	1564.K08.gz43_296674	F	M00042729A:H08	UC2-NormColon
5829	454825	1564.M08.gz43_296676	F	M00042733C:C05	UC2-NormColon
5830	466614	1564.O08.gz43_296678	F	M00042737D:D03	UC2-NormColon
5831	457975	1564.A09.gz43_296680	F	M00042710B:B09	UC2-NormColon
5832	446345	1564.I09.gz43_296688	F	M00042724D:B04	UC2-NormColon
5833	456530	1564.C11.gz43_296714	F	M00042714A:G04	UC2-NormColon
5834	462337	1564.E11.gz43_296716	F	M00042716D:G04	UC2-NormColon
5835	447387	1564.N11.gz43_296725	F	M00042736A:F03	UC2-NormColon
5836	467780	1564.B12.gz43_296729	F	M00042712A:E08	UC2-NormColon
5837	447561	1564.C12.gz43_296730	F	M00042714A:H05	UC2-NormColon
5838	461313	1564.K12.gz43_296738	F	M00042729B:F10	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5839	453679	1564.L12.gz43_296739	F	M00042732A:A11	UC2-NormColon
5840	446964	1564.G13.gz43_296750	F	M00042721A:G07	UC2-NormColon
5841	459158	1564.H13.gz43_296751	F	M00042722D:C12	UC2-NormColon
5842	450723	1564.M13.gz43_296756	F	M00042733D:G08	UC2-NormColon
5843	447826	1564.C15.gz43_296778	F	M00042714B:E01	UC2-NormColon
5844	446741	1564.D15.gz43_296779	F	M00042715D:E02	UC2-NormColon
5845	452687	1564.F15.gz43_296781	F	M00042719A:H06	UC2-NormColon
5846	446601	1564.H15.gz43_296783	F	M00042723A:D09	UC2-NormColon
5847	447649	1564.B19.gz43_296841	F	M00042712C:E06	UC2-NormColon
5848	465528	1564.C19.gz43_296842	F	M00042714C:C10	UC2-NormColon
5849	462865	1564.E19.gz43_296844	F	M00042717B:G11	UC2-NormColon
5850	405932	1564.F19.gz43_296845	F	M00042719C:H05	UC2-NormColon
5851	457922	1564.G19.gz43_296846	F	M00042721D:B03	UC2-NormColon
5852	463821	1564.N19.gz43_296853	F	M00042737A:A07	UC2-NormColon
5853	463217	1564.O19.gz43_296854	F	M00042738D:H12	UC2-NormColon
5854	389425	1564.A20.gz43_296856	F	M00042711A:F01	UC2-NormColon
5855	446242	1564.O20.gz43_296870	F	M00042739A:C06	UC2-NormColon
5856	449171	1564.C21.gz43_296874	F	M00042714C:F12	UC2-NormColon
5857	450723	1564.G21.gz43_296878	F	M00042721D:D01	UC2-NormColon
5858	469766	1564.M21.gz43_296884	F	M00042735A:G12	UC2-NormColon
5859	446866	1564.D22.gz43_296891	F	M00042716A:F09	UC2-NormColon
5860	403949	1564.M23.gz43_296916	F	M00042735B:A06	UC2-NormColon
5861	446922	1564.O23.gz43_296918	F	M00042739A:G07	UC2-NormColon
5862	235874	1564.C24.gz43_296922	F	M00042714D:E11	UC2-NormColon
5863	558301	1681.A01.gz43_296936	F	M00055739A:C09	UC2-NormColon
5864	426366	1681.I01.gz43_296944	F	M00055749D:B07	UC2-NormColon
5865	638943	1681.J01.gz43_296945	F	M00055750C:H10	UC2-NormColon
5866	645603	1681.O01.gz43_296950	F	M00055758C:H10	UC2-NormColon
5867	642644	1681.E02.gz43_296956	F	M00055744C:D02	UC2-NormColon
5868	644105	1681.I02.gz43_296960	F	M00055749D:C01	UC2-NormColon
5869	468613	1681.A03.gz43_296968	F	M00055739B:B06	UC2-NormColon
5870	648905	1681.B03.gz43_296969	F	M00055740C:A07	UC2-NormColon
5871	446925	1681.H03.gz43_296975	F	M00055748C:C07	UC2-NormColon
5872	649356	1681.I03.gz43_296976	F	M00055749D:D06	UC2-NormColon
5873	510724	1681.K03.gz43_296978	F	M00055752C:C06	UC2-NormColon
5874	446676	1681.L03.gz43_296979	F	M00055753D:C06	UC2-NormColon
5875	644937	1681.B04.gz43_296985	F	M00055740C:E06	UC2-NormColon
5876	644342	1681.I04.gz43_296992	F	M00055749D:F12	UC2-NormColon
5877	640264	1681.O04.gz43_296998	F	M00055758D:E02	UC2-NormColon
5878	463951	1681.D05.gz43_297003	F	M00055743C:D12	UC2-NormColon
5879	644345	1681.K05.gz43_297010	F	M00055752C:F06	UC2-NormColon
5880	646552	1681.N06.gz43_297029	F	M00055757B:B07	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5881	611927	1681.K07.gz43_297042	F	M00055752C:H07	UC2-NormColon
5882	639420	1681.N07.gz43_297045	F	M00055757B:C04	UC2-NormColon
5883	568467	1681.A08.gz43_297048	F	M00055739B:H08	UC2-NormColon
5884	645147	1681.C08.gz43_297050	F	M00055742B:H06	UC2-NormColon
5885	447936	1681.E08.gz43_297052	F	M00055744D:A11	UC2-NormColon
5886	492917	1681.O08.gz43_297062	F	M00055759A:B02	UC2-NormColon
5887	649427	1681.D09.gz43_297067	F	M00055743D:D04	UC2-NormColon
5888	556654	1681.F09.gz43_297069	F	M00055745D:F11	UC2-NormColon
5889	594040	1681.H09.gz43_297071	F	M00055748D:C03	UC2-NormColon
5890	488432	1681.J09.gz43_297073	F	M00055751A:F06	UC2-NormColon
5891	641144	1681.K09.gz43_297074	F	M00055752D:C01	UC2-NormColon
5892	550223	1681.L09.gz43_297075	F	M00055754A:E07	UC2-NormColon
5893	491544	1681.M09.gz43_297076	F	M00055755D:C09	UC2-NormColon
5894	648481	1681.A10.gz43_297080	F	M00055739C:D11	UC2-NormColon
5895	150839	1681.B10.gz43_297081	F	M00055740D:G12	UC2-NormColon
5896	644053	1681.F10.gz43_297085	F	M00055746A:C09	UC2-NormColon
5897	644342	1681.K10.gz43_297090	F	M00055752D:F01	UC2-NormColon
5898	419479	1681.C11.gz43_297098	F	M00055742C:C01	UC2-NormColon
5899	645000	1681.E11.gz43_297100	F	M00055744D:F03	UC2-NormColon
5900	478833	1681.L11.gz43_297107	F	M00055754A:H06	UC2-NormColon
5901	644684	1681.A13.gz43_297128	F	M00055739D:B12	UC2-NormColon
5902	640504	1681.B13.gz43_297129	F	M00055741A:D09	UC2-NormColon
5903	463815	1681.A14.gz43_297144	F	M00055739D:C03	UC2-NormColon
5904	640997	1681.B15.gz43_297161	F	M00055741B:B12	UC2-NormColon
5905	642263	1681.D15.gz43_297163	F	M00055744A:B04	UC2-NormColon
5906	451508	1681.P15.gz43_297175	F	M00055761A:E06	UC2-NormColon
5907	644919	1681.A16.gz43_297176	F	M00055739D:E04	UC2-NormColon
5908	639703	1681.K16.gz43_297186	F	M00055753A:D04	UC2-NormColon
5909	639750	1681.M16.gz43_297188	F	M00055756C:C03	UC2-NormColon
5910	587696	1681.F17.gz43_297197	F	M00055746C:F06	UC2-NormColon
5911	461917	1681.H17.gz43_297199	F	M00055749B:C10	UC2-NormColon
5912	644510	1681.I17.gz43_297200	F	M00055750B:H01	UC2-NormColon
5913	526459	1681.B18.gz43_297209	F	M00055741C:A09	UC2-NormColon
5914	471277	1681.F18.gz43_297213	F	M00055746C:F10	UC2-NormColon
5915	483042	1681.K18.gz43_297218	F	M00055753B:A02	UC2-NormColon
5916	514838	1681.L18.gz43_297219	F	M00055755A:B11	UC2-NormColon
5917	643984	1681.N18.gz43_297221	F	M00055757D:B05	UC2-NormColon
5918	462245	1681.A19.gz43_297224	F	M00055740A:B03	UC2-NormColon
5919	640017	1681.D19.gz43_297227	F	M00055744B:B02	UC2-NormColon
5920	453726	1681.E19.gz43_297228	F	M00055745A:H02	UC2-NormColon
5921	644468	1681.F19.gz43_297229	F	M00055746C:G06	UC2-NormColon
5922	644105	1681.H19.gz43_297231	F	M00055749C:B03	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5923	447485	1681.K19.gz43_297234	F	M00055753B:A06	UC2-NormColon
5924	218416	1681.D20.gz43_297243	F	M00055744B:C08	UC2-NormColon
5925	489040	1681.H20.gz43_297247	F	M00055749C:C04	UC2-NormColon
5926	649702	1681.J20.gz43_297249	F	M00055752A:E10	UC2-NormColon
5927	643142	1681.A21.gz43_297256	F	M00055740B:C06	UC2-NormColon
5928	448251	1681.G21.gz43_297262	F	M00055748A:D07	UC2-NormColon
5929	644461	1681.N21.gz43_297269	F	M00055758A:G02	UC2-NormColon
5930	641968	1681.P22.gz43_297287	F	M00055761B:F09	UC2-NormColon
5931	470667	1681.E23.gz43_297292	F	M00055745B:H02	UC2-NormColon
5932	644479	1681.J23.gz43_297297	F	M00055752A:G10	UC2-NormColon
5933	463824	1681.A24.gz43_297304	F	M00055740B:F09	UC2-NormColon
5934	389377	1681.C24.gz43_297306	F	M00055743B:E01	UC2-NormColon
5935	468959	1681.E24.gz43_297308	F	M00055745C:A06	UC2-NormColon
5936	553675	1681.M24.gz43_297316	F	M00055757A:A07	UC2-NormColon
5937	449978	1561.C01.gz43_314395	F	M00042344D:F03	UC2-NormColon
5938	463920	1561.G01.gz43_314399	F	M00042526D:A05	UC2-NormColon
5939	456267	1561.J01.gz43_314402	F	M00042531B:G12	UC2-NormColon
5940	459997	1561.M01.gz43_314405	F	M00042537A:D12	UC2-NormColon
5941	447386	1561.I02.gz43_314417	F	M00042529D:D07	UC2-NormColon
5942	468257	1561.K02.gz43_314419	F	M00042533B:F11	UC2-NormColon
5943	18786	1561.E03.gz43_314429	F	M00042523C:H06	UC2-NormColon
5944	447494	1561.A04.gz43_314441	F	M00042341A:D08	UC2-NormColon
5945	459893	1561.B04.gz43_314442	F	M00042343B:D05	UC2-NormColon
5946	462558	1561.M04.gz43_314453	F	M00042537A:G09	UC2-NormColon
5947	458425	1561.O04.gz43_314455	F	M00042541A:B07	UC2-NormColon
5948	249178	1561.C05.gz43_314459	F	M00042345B:A05	UC2-NormColon
5949	462815	1561.J05.gz43_314466	F	M00042531D:G08	UC2-NormColon
5950	417291	1561.K05.gz43_314467	F	M00042533C:F04	UC2-NormColon
5951	463341	1561.M05.gz43_314469	F	M00042537A:H04	UC2-NormColon
5952	447868	1561.A06.gz43_314473	F	M00042341A:H04	UC2-NormColon
5953	461653	1561.B06.gz43_314474	F	M00042343B:F12	UC2-NormColon
5954	465127	1561.K06.gz43_314483	F	M00042533D:B05	UC2-NormColon
5955	460246	1561.N06.gz43_314486	F	M00042539B:D09	UC2-NormColon
5956	33139	1561.O06.gz43_314487	F	M00042541A:E06	UC2-NormColon
5957	457508	1561.N07.gz43_314502	F	M00042539C:A04	UC2-NormColon
5958	461917	1561.B09.gz43_314522	F	M00042343D:F08	UC2-NormColon
5959	447568	1561.H09.gz43_314528	F	M00042528D:D09	UC2-NormColon
5960	467094	1561.J09.gz43_314530	F	M00042532A:D08	UC2-NormColon
5961	447087	1561.N09.gz43_314534	F	M00042539C:H08	UC2-NormColon
5962	458419	1561.O09.gz43_314535	F	M00042541B:B05	UC2-NormColon
5963	446952	1561.D10.gz43_314540	F	M00042522C:H10	UC2-NormColon
5964	470513	1561.H10.gz43_314544	F	M00042528D:H03	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIENT	CLONE ID	LIBRARY
5965	459974	1561.M10.gz43_314549	F	M00042537C:D04	UC2-NormColon
5966	1454	1561.N10.gz43_314550	F	M00042539D:A04	UC2-NormColon
5967	464510	1561.D11.gz43_314556	F	M00042522D:A08	UC2-NormColon
5968	457846	1561.G11.gz43_314559	F	M00042527B:B01	UC2-NormColon
5969	15296	1561.I11.gz43_314561	F	M00042530C:H02	UC2-NormColon
5970	446578	1561.C12.gz43_314571	F	M00042345D:D04	UC2-NormColon
5971	463086	1561.F12.gz43_314574	F	M00042525C:H07	UC2-NormColon
5972	464287	1561.I12.gz43_314577	F	M00042530D:A02	UC2-NormColon
5973	447805	1561.A14.gz43_314601	F	M00042341D:G11	UC2-NormColon
5974	446188	1561.G14.gz43_314607	F	M00042527C:A10	UC2-NormColon
5975	468565	1561.I14.gz43_314609	F	M00042530D:F09	UC2-NormColon
5976	470600	1561.J14.gz43_314610	F	M00042532A:H03	UC2-NormColon
5977	457772	1561.A15.gz43_314617	F	M00042342A:B04	UC2-NormColon
5978	446383	1561.E15.gz43_314621	F	M00042524C:C12	UC2-NormColon
5979	446673	1561.F15.gz43_314622	F	M00042525D:E01	UC2-NormColon
5980	462779	1561.L15.gz43_314628	F	M00042536B:G08	UC2-NormColon
5981	446289	1561.C16.gz43_314635	F	M00042521A:E10	UC2-NormColon
5982	458146	1561.K16.gz43_314643	F	M00042534B:B08	UC2-NormColon
5983	447690	1561.L16.gz43_314644	F	M00042536C:A06	UC2-NormColon
5984	452888	1561.N16.gz43_314646	F	M00042540B:B03	UC2-NormColon
5985	461327	1561.B17.gz43_314650	F	M00042344B:F02	UC2-NormColon
5986	456958	1561.E17.gz43_314653	F	M00042524D:A10	UC2-NormColon
5987	467901	1561.F17.gz43_314654	F	M00042526A:E10	UC2-NormColon
5988	459981	1561.K17.gz43_314659	F	M00042534B:D06	UC2-NormColon
5989	457218	1561.N17.gz43_314662	F	M00042540C:A12	UC2-NormColon
5990	463008	1561.A18.gz43_314665	F	M00042342C:H03	UC2-NormColon
5991	446341	1561.L18.gz43_314676	F	M00042536C:B03	UC2-NormColon
5992	446389	1561.O18.gz43_314679	F	M00042542A:C11	UC2-NormColon
5993	447096	1561.P18.gz43_314680	F	M00042543B:H12	UC2-NormColon
5994	446984	1561.B19.gz43_314682	F	M00042344B:H12	UC2-NormColon
5995	468767	1561.F19.gz43_314686	F	M00042526A:F11	UC2-NormColon
5996	467884	1561.H19.gz43_314688	F	M00042529B:E03	UC2-NormColon
5997	459881	1561.A20.gz43_314697	F	M00042342D:D03	UC2-NormColon
5998	447027	1561.D20.gz43_314700	F	M00042523B:H01	UC2-NormColon
5999	447380	1561.F20.gz43_314702	F	M00042526B:C12	UC2-NormColon
6000	446304	1561.O21.gz43_314727	F	M00042542B:B01	UC2-NormColon
6001	447072	1561.C22.gz43_314731	F	M00042521D:G09	UC2-NormColon
6002	379335	1561.I22.gz43_314737	F	M00042531B:D12	UC2-NormColon
6003	228873	1561.L22.gz43_314740	F	M00042537A:A07	UC2-NormColon
6004	446663	1561.D23.gz43_314748	F	M00042523C:E08	UC2-NormColon
6005	464791	1561.F23.gz43_314750	F	M00042526C:B12	UC2-NormColon
6006	446595	1561.K23.gz43_314755	F	M00042534D:D10	UC2-NormColon

Table 2

SEQ ID NO	CLUSTER	SEQ NAME	ORIE NT	CLONE ID	LIBRARY
6007	446439	1561.O23.gz43_314759	F	M00042542B:C11	UC2-NormColon
6008	458979	1561.A24.gz43_314761	F	M00042343A:C05	UC2-NormColon
6009	446620	1561.C24.gz43_314763	F	M00042522A:A05	UC2-NormColon
6010	452507	1561.F24.gz43_314766	F	M00042526D:A02	UC2-NormColon

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1	AJ251957	Ciona intestinalis mRNA for nuclear lamin (lamin L2 gene)	2.2
2	AF133812	Strongylocentrotus pallidus isolate pR31 bindin gene, partial cds	0.88
3	AF051651	Homo sapiens squalene synthase gene, intron 3, 5' end	0.0001
4	NM_016701	Mus musculus nestin (Nes), mRNA	0.24
5	Y09000	R.norvegicus mRNA for dendrin	0.11
6	U67519	Methanococcus jannaschii section 61 of 150 of the complete genome	6.1
7	AK005889	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:1700012B08, full insert sequence	e-139
8	AB029343	Homo sapiens HCR (a-helix coiled-coil rod homologue) gene, complete cds	0.023
9	AB017505	Homo sapiens mRNA for Nori-2p, complete cds	0
10	AY024246	Oryza sativa microsatellite MRG6571 containing (TCTA)X6, genomic sequence	6.3
11	U32309	Acipenser fulvescens Af14 cytochrome b gene, partial cds, tRNA-Thr, tRNA-Pro and partial D-loop, mitochondrial genes encoding mitochondrial products	6.3
12	XM_046070	Homo sapiens KIAA0853 protein (KIAA0853), mRNA	3E-48
13	AK001945	Homo sapiens cDNA FLJ11083 fis, clone PLACE1005232	2.2
14	AF111457	Meleagris gallopavo clone TUCA1141 microsatellite sequence	0.076
15	AK018499	Mus musculus adult male colon cDNA, RIKEN full-length enriched library, clone:9030409O13, full insert sequence	0
16	AE002648	Drosophila melanogaster genomic scaffold 142000013385436, complete sequence	2.2
17	AC001011	Homo sapiens (subclone 1_e5 from P1 H43) DNA sequence, complete sequence	0.003
18	XM_039942	Homo sapiens Meis (mouse) homolog 3 (MEIS3), mRNA	0.75
19	AF099003	Caenorhabditis elegans cosmid Y59C2A	0.75
20	U92972	Mus musculus protease-activated receptor 3 (PAR3) mRNA, complete cds	0.08
21	AE003935	Xylella fastidiosa 9a5c, section 81 of 229 of the complete genome	0.067
22	AB031009	Homo sapiens DNA, MHC class I CL region, 7.1 ancestral haplotype	0.019
23	X94207	H.sapiens TPR gene (1365bp)	4.8
24	AK025678	Homo sapiens cDNA: FLJ22025 fis, clone HEP08518	2.2
25	AK014552	Mus musculus 0 day neonate skin cDNA, RIKEN full-length enriched library, clone:4632404O06, full insert sequence	e-176
26	XM_044013	Homo sapiens kinesin-like protein 2 (hklp2), mRNA	0
27	NM_032993	Homo sapiens nucleolar protein family A, member 1 (H/ACA small nucleolar RNPs) (NOLA1), transcript variant 2, mRNA	4E-50
28	NM_032315	Homo sapiens hypothetical protein MGC4399 (MGC4399), mRNA	0
29	AK020701	Mus musculus 6 days neonate skin cDNA, RIKEN full-length enriched library, clone:A030009B12, full insert sequence	0.0000002
30	AK021717	Homo sapiens cDNA FLJ11655 fis, clone HEMBA1004554	0

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
31	AL512453	Human DNA sequence from clone CTC-1516K22 on chromosome 6, complete sequence [Homo sapiens]	0.00004
32	XM_005034	Homo sapiens hypothetical protein FLJ10511 (FLJ10511), mRNA	2E-22
33	AF318896	Cricetulus griseus beta-1,4-galactosyltransferase 1 (beta4GalT-1) mRNA, complete cds	0.78
34	D29757	Human gene for cytochrome P-450 aromatase, exon 1 (brain specific)	3E-24
35	AJ311520	Ostreopsis ovata 5.8S rRNA gene, internal transcribed spacer 1 (ITS1) and internal transcribed spacer 2 (ITS2), strain A1	0.79
36	XM_038521	Homo sapiens phosphatidylserine decarboxylase (PISD), mRNA	0
37	AK023043	Homo sapiens cDNA FLJ12981 fis, clone NT2RP2006454	3E-96
38	XM_045520	Homo sapiens KIAA1595 protein (KIAA1595), mRNA	4E-16
39	AB017505	Homo sapiens mRNA for Nori-2p, complete cds	0
40	AK002682	Mus musculus adult male kidney cDNA, RIKEN full-length enriched library, clone:0610027B03, full insert sequence	e-138
41	NC_001712	Locusta migratoria mitochondrion, complete genome	0.009
42	AL512453	Human DNA sequence from clone CTC-1516K22 on chromosome 6, complete sequence [Homo sapiens]	0.00001
43	AK002682	Mus musculus adult male kidney cDNA, RIKEN full-length enriched library, clone:0610027B03, full insert sequence	e-125
44	XM_039088	Homo sapiens KIAA0914 gene product (KIAA0914), mRNA	0.76
45	U30291	Schistosoma mansoni synaptobrevin-like protein gene, exon 2 and partial cds	0.69
46	XM_052543	Homo sapiens mitochondrial ribosomal protein L42 (MRPL42), mRNA	1E-26
47	AK026225	Homo sapiens cDNA: FLJ22572 fis, clone HSI02313	0.0008
48	XM_043007	Homo sapiens hypothetical gene supported by AK021969 (LOC92132), mRNA	1E-99
49	M18824	P.faciapum S antigen gene, complete cds	0.003
50	XM_009311	Homo sapiens zinc finger protein 304 (ZNF304), mRNA	0.003
51	AK026697	Homo sapiens cDNA: FLJ23044 fis, clone LNG02454	0
52	XM_035597	Homo sapiens hypothetical protein AF140225 (AF140225), mRNA	1E-98
53	U81366	Plasmid Rts1 killer protein and antidote protein genes, complete cds	0.26
54	U28921	Phaseolus vulgaris ATPase gamma subunit mRNA, nuclear gene encoding mitochondrial protein, partial cds	0.27
55	AF305083	Homo sapiens alpha(1,3)-fucosyltransferase IV (FUTIV) gene, 3' UTR	0.031
56	D29757	Human gene for cytochrome P-450 aromatase, exon 1 (brain specific)	7E-20
57	XM_038048	Homo sapiens similar to APICAL ENDOSOMAL GLYCOPROTEIN PRECURSOR (R. norvegicus) (LOC91372), mRNA	0.0004
58	AK026860	Homo sapiens cDNA: FLJ23207 fis, clone ADSE00968	8E-12



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
59	BC010849	Homo sapiens, Similar to hypothetical protein FLJ20561, clone MGC:8851 IMAGE:3878776, mRNA, complete cds	0
60	XM_036092	Homo sapiens signal recognition particle 68kD (SRP68), mRNA	0
61	XM_003184	Homo sapiens zinc finger protein ANC_2H01 (LOC51193), mRNA	0
63	Z49806	B.taurus mRNA for adenylyl cyclase type VII	6.8
64	XM_048858	Homo sapiens hypothetical protein FLJ23384 (FLJ23384), mRNA	0
65	NM_032315	Homo sapiens hypothetical protein MGC4399 (MGC4399), mRNA	0
66	AB057594	Homo sapiens GSTT1 gene for glutathione S-transferase TT1, complete cds	3E-69
67	XM_035597	Homo sapiens hypothetical protein AF140225 (AF140225), mRNA	2E-75
68	XM_035597	Homo sapiens hypothetical protein AF140225 (AF140225), mRNA	1E-71
69	AB017505	Homo sapiens mRNA for Nori-2p, complete cds	0
70	AK010143	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2310074B19, full insert sequence	1.7
71	AK008666	Mus musculus adult male stomach cDNA, RIKEN full-length enriched library, clone:2210008A03, full insert sequence	e-173
72	L18785	Plasmodium falciparum DNA polymerase alpha gene, complete cds	0.007
73	XM_003327	Homo sapiens hypothetical protein FLJ10858 (FLJ10858), mRNA	0
74	AK004786	Mus musculus adult male lung cDNA, RIKEN full-length enriched library, clone:1200015F23, full insert sequence	2E-11
75	Z29969	E.histolytica plasmid genes for ribosomal RNA and hemolysins HLY1, HLY5mc1 HLY5mc2 HLY4	0.028
76	AK024945	Homo sapiens cDNA: FLJ21292 fis, clone COL01969	0
77	Y15931	Homo sapiens CTNS gene, exon 10 and flanking intronic regions	0.78
78	BC000610	Homo sapiens, hypothetical protein FLJ10986, clone MGC:908 IMAGE:3347108, mRNA, complete cds	0
79	XM_050424	Homo sapiens KIAA1244 protein (KIAA1244), mRNA	0.75
80	NC_001807	Human mitochondrion, complete genome	1E-36
81	AF360266	Arabidopsis thaliana unknown protein (F28C11.8) mRNA, complete cds	6.8
82	BC000225	Homo sapiens, Similar to hypothetical protein FLJ10656, clone IMAGE:3350951, mRNA	0
83	XM_034107	Homo sapiens hypothetical protein FLJ20758 (FLJ20758), mRNA	7E-32
84	AF305816	Homo sapiens PRO0633 mRNA, complete cds	0.67
85	AF196678	HIV-1 isolate 96RW34 from Rwanda, gag protein (gag) gene, partial cds	2.1
86	AK024927	Homo sapiens cDNA: FLJ21274 fis, clone COL01781	6E-75
87	X77394	P.philodendra mitochondrial DNA repeat unit	0.23

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
88	U41203	Human short tandem repeat polymorphism UM32, D17S1333	0.0001
89	AC015937	Homo sapiens chromosome 17, clone CTD-2542F12, complete sequence	0.65
90	AF245117	Mus musculus leukocyte cell-surface molecule (Ly9) gene, exon 1	0.74
91	XM_001412	Homo sapiens metal-regulatory transcription factor 1 (MTF1), mRNA	2E-50
92	AE006690	Sulfolobus solfataricus section 49 of 272 of the complete genome	0.26
93	AJ292466	Homo sapiens mRNA for WDR9 protein (WDR9 gene), form B	9E-44
94	NM_013983	Homo sapiens neuregulin 2 (NRG2), transcript variant 4, mRNA	0.27
95	J01390	Emericella nidulans mtDNA between h2/h5 and bh2/b2 junctions. genes for ATPase subunit 6, cytochrome oxidase subunit 3, seven. unidentified proteins, twentyfour tRNA's and L-rRNA	2.2
96	AP000384	Arabidopsis thaliana genomic DNA, chromosome 3, P1 clone:MCE21	0.22
97	AE001397	Plasmodium falciparum chromosome 2, section 34 of 73 of the complete sequence	2.4
98	AE000192	Escherichia coli K12 MG1655 section 82 of 400 of the complete genome	0.003
99	AF316828	Schistosoma mansoni zinc finger protein SmZF1 gene, complete cds	1.7
100	BC007942	Homo sapiens, nucleolar autoantigen (55kD) similar to rat synaptonemal complex protein, clone MGC:14267 IMAGE:4130726, mRNA, complete cds	2E-59
101	L35301	Homo sapiens nucleoside diphosphate kinase A (nm23-H1) gene fragment	0.003
102	AF114927	Saccharomyces pastorianus CBS1538 small subunit ribosomal RNA gene, mitochondrial gene for mitochondrial RNA, complete sequence	0.27
103	AF299248	Drosophila melanogaster talin mRNA, complete cds	1.8
104	BC003191	Homo sapiens, GL004 protein, clone MGC:895 IMAGE:3502929, mRNA, complete cds	2E-10
105	U29926	Human AMP deaminase (AMPD3) gene, exon 14 and 15, and complete cds	0.06
106	BC003191	Homo sapiens, GL004 protein, clone MGC:895 IMAGE:3502929, mRNA, complete cds	0
107	AK022127	Homo sapiens cDNA FLJ12065 fis, clone HEMBB1002249	0.0008
108	D16360	Human DNA for plasma glutathione peroxidase, exon 1	0.091
109	AK014138	Mus musculus 13 days embryo head cDNA, RIKEN full-length enriched library, clone:3110038A11, full insert sequence	6
110	XM_006914	Homo sapiens cold shock domain protein A (CSDA), mRNA	0.079
111	U31283	Mesotaenium caldariorum clone mesphy1a phytochrome gene, partial cds, exons 4 through 10	0.56
112	XM_049935	Homo sapiens hypothetical protein FLJ14950 (FLJ14950), mRNA	0

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
113	AE001329	Chlamydia trachomatis section 56 of 87 of the complete genome	0.75
114	XM_037830	Homo sapiens OLF-1/EBF associated zinc finger gene (KIAA0760), mRNA	0.25
115	AE006368	Lactococcus lactis subsp. lactis IL1403 section 130 of 218 of the complete genome	0.0003
116	XM_049935	Homo sapiens hypothetical protein FLJ14950 (FLJ14950), mRNA	0
117	XM_032533	Homo sapiens hypothetical protein FLJ12787 (FLJ12787), mRNA	0
118	AJ309861	Homo sapiens partial mRNA for putative protein kinase WNK4 (PRKWNK4 gene)	9E-76
119	BC005173	Homo sapiens, KIAA0255 gene product, clone IMAGE:3507918, mRNA	2E-38
120	AF068758	Drosophila melanogaster SIR2 (Sir2) mRNA, complete cds	0.083
121	AK017307	Mus musculus 6 days neonate head cDNA, RIKEN full-length enriched library, clone:5430414B19, full insert sequence	0.003
122	XM_036208	Homo sapiens sphingosine kinase 1 (SPHK1), mRNA	2.1
123	XM_039960	Homo sapiens PC3-96 protein (PC3-96), mRNA	0
124	XM_039306	Homo sapiens hypothetical protein FLJ20400 (FLJ20400), mRNA	0.08
125	XM_049935	Homo sapiens hypothetical protein FLJ14950 (FLJ14950), mRNA	0
126	AE006080	Pasteurella multocida PM70 section 47 of 204 of the complete genome	2.1
127	XM_009518	Homo sapiens WNT1 inducible signaling pathway protein 2 (WISP2), mRNA	0.16
128	U36263	Homo sapiens beta-prime-adaptin (AP1B1) gene, exon 15	0.022
129	AF267996	Homo sapiens muscle-specific protein (C4orf5) gene, intron 3	0.34
130	AF131859	Homo sapiens clone 24923 mRNA sequence	1.8
131	L48479	Homo sapiens (subclone 6_h1 from P1 H21) DNA sequence	0.01
132	XM_018317	Homo sapiens ubiquitination factor E4B (homologous to yeast UFD2) (UBE4B), mRNA	1.6
133	XM_008267	Homo sapiens solute carrier family 16 (monocarboxylic acid transporters), member 6 (SLC16A6), mRNA	0.23
134	AF162923	Beet soil-borne virus RNA3 isolate 6b 22K protein gene, partial cds	6.6
135	NM_010053	Mus musculus distal-less homeobox 1 (Dlx1), mRNA	2.5
136	AF257303	Mus musculus synaptotagmin II (Syt2) gene, complete cds	0.85
137	Z92837	Caenorhabditis elegans cosmid R03E1, complete sequence	0.027
138	AF258528	Loligo pealei phospholipase C mRNA, complete cds	0.74
139	M65252	Bacillus thuringiensis alesti delta endotoxin gene, complete cds	0.075
140	M14954	D.melanogaster (W-IR1 mutation) I factor DNA, complete cds	0.053
141	Z48636	C.novyi gene for alpha-toxin	0.026
142	XM_036491	Homo sapiens hypothetical protein MGC3771 (MGC3771), mRNA	0.002

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
143	AK020198	Mus musculus 15 days embryo male testis cDNA, RIKEN full-length enriched library, clone:8030442B05, full insert sequence	0.53
144	AJ404228	Saccharomyces douglasii mitochondrial tRNA gene cluster	0.022
145	AJ297708	Rattus norvegicus RT6 gene for T cell differentiation marker RT6.2, exons 1-8	0.024
146	AK026697	Homo sapiens cDNA: FLJ23044 fis, clone LNG02454	1.9
147	AE001370	Plasmodium falciparum chromosome 2, section 7 of 73 of the complete sequence	0.017
148	AF325208	Acetabularia acetabulum nicotinamide nucleotide transhydrogenase (Nnt) gene, exons 6, 7, 8, and complete cds	5.2
149	L78770	Homo sapiens (subclone 1_f7 from P1 H43) DNA sequence	0.068
150	AF182214	Glycine max glutamine synthetase gamma 2 subunit gene, 5'-flanking region and partial cds	0.2
151	AF359513	Lolium rigidum clone LR1 acetyl-CoA carboxylase mRNA, partial cds; nuclear gene for plastid product	0.2
152	AE004798	Pseudomonas aeruginosa PA01, section 359 of 529 of the complete genome	2.6
153	NM_021699	Rattus norvegicus serine/threonine kinase (LOC60328), mRNA	1.8
154	XM_040539	Homo sapiens interphotoreceptor matrix proteoglycan 200 (SPACRCAN), mRNA	2.3
155	AE006894	Sulfolobus solfataricus section 253 of 272 of the complete genome	0.027
156	Y14603	Erwinia amylovora srlA, srlE, srlB, srlD, srlM and srlR genes	0.8
157	AF181720	Homo sapiens RU2AS (RU2) gene, complete cds; and RU2S (RU2) gene, partial cds	0.051
158	XM_043815	Homo sapiens hypothetical protein FLJ21736 (FLJ21736), mRNA	1.1
159	AE006059	Pasteurella multocida PM70 section 26 of 204 of the complete genome	1.6
160	AF151097	Homo sapiens voltage-dependent anion channel (VDAC1) gene, exons 8 and 9 and complete cds	0.074
161	AF165136	Mycoplasma mycoides mycoides LC hypothetical surface located membrane protein and lipoprotein B precursor (lppB) genes, partial cds	0.23
162	XM_016392	Homo sapiens hypothetical protein FLJ12768 (FLJ12768), mRNA	2.1
163	AF170544	Magnaporthe grisea vacuolar-ATPase (VATP) mRNA, complete cds	0.15
164	AY045680	Arabidopsis thaliana At1g08350/T27G7_4 mRNA, complete cds	0.009
165	AF285100	Bos taurus lysophosphatidic acid acyltransferase gene, complete cds	1.6
166	AF194170	Dictyostelium discoideum cudA protein gene, promotor sequence and partial cds	0.039
167	AF242446	Homo sapiens LINE-1 insertion dimorphism LID-3 empty site sequence	0.043

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
168	AF084196	Pan troglodytes gamma-aminobutyric acid receptor A5 subunit duplicated gene, 5'UTR region	0.88
169	AK021754	Homo sapiens cDNA FLJ11692 fis, clone HEMBA1004983	0
170	AE006002	Caulobacter crescentus section 328 of 359 of the complete genome	1.6
171	AL096734	Homo sapiens mRNA; cDNA DKFZp434M011 (from clone DKFZp434M011)	0.015
172	AF251351	Homo sapiens 2'-5'oligoadenylate synthetase 3 (OAS3) gene, promoter region	2.7
173	AF061244	Agrocye aegerita B type DNA polymerase (Mtpol) gene, complete cds; tRNA-Asn gene, complete sequence; and unknown genes, mitochondrial genes for mitochondrial products	0.0006
174	X95275	P.falciparum complete gene map of plastid-like DNA (IR-A)	0.1
176	M88599	Entamoeba histolytica P-glycoprotein-1 (pgp1) gene, complete cds	0.12
177	AY019624	Oryza sativa microsatellite MRG1949 containing (AT)X40, closest to marker R1167, genomic sequence	0.017
178	NM_026040	Mus musculus RIKEN cDNA 2810036K01 gene (2810036K01Rik), mRNA	e-101
179	AL162040	Homo sapiens mRNA; cDNA DKFZp434N199 (from clone DKFZp434N199)	e-152
180	AJ295190	Human coxsackievirus A11 genomic RNA for partial polyprotein gene, isolate VR-169, ATCC	1.5
181	AJ298684	Phylloxera sp. MBLM2 mitochondrial ATP6 gene for ATP synthase A chain subunit 6	0.51
183	AF268064	Candidatus Carsonella ruddii natural-host Calophya schini RNA polymerase beta subunit (rpoB) and RNA polymerase beta-prime subunit (rpoC) genes, partial cds	0.012
184	U27374	Human Menkes disease gene (ATP7A), exon 16	0.51
185	D10767	Epizootic haemorrhagic disease virus serotype 1 (EHDV-1) gene encoding VP2 protein	0.049
186	AJ002256	Mus musculus minisatellite tandem repeat (MMS73)	0.058
187	AB007546	Homo sapiens gene for LECT2, complete cds	2E-11
188	AF254573	Cricetulus griseus origin recognition complex subunit 2 mRNA, complete cds	0.57
189	AK024903	Homo sapiens cDNA: FLJ21250 fis, clone COL01253, highly similar to AB020527 Homo sapiens mRNA for Na/PO4 cotransporter homolog	e-135
190	AF359513	Lolium rigidum clone LR1 acetyl-CoA carboxylase mRNA, partial cds; nuclear gene for plastid product	0.15
191	AJ237585	Mus musculus mRNA for hypothetical protein expressed in thymocytes (clone MFT.M05.13/MTA.B10.066), partial	4.4
192	AF233591	Mus musculus son-of-sevenless 1 (Sos1) gene, partial cds	0.52
193	X81190	M.musculus DNA flanking site of transgene insertion	4.8
194	AF232246	Tetrahymena thermophila clone Tlr1 Int integrase-like protein gene, complete cds	0.53

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
195	AB034969	Thermococcus sp. B1001 cgtB, cgtA, cgtC, cgtD, cgtE genes for cyclomaltodextrinase, cyclomaltodextrin glucanotransferase, cyclomaltodextrin binding protein, cyclomaltodextrin transport membrane protein, complete cds	1.8
196	U95885	Ixodes granulatus 16S ribosomal RNA gene, mitochondrial gene for mitochondrial RNA, partial sequence	0.048
198	XM_016002	Homo sapiens LOC88174 (LOC88174), mRNA	4
199	AC091698	Homo sapiens clone RP11-596J6, complete sequence	0.000003
200	Z99763	Flaveria pringlei gdcH gene	0.02
201	AB048873	Macaca fascicularis brain cDNA, clone:QnpA-10763	0.053
202	AF286367	Homo sapiens HMGIY gene, promoter	0.007
203	AB029073	Mus musculus Kkm gene for Ser/Thr kinase KKIAMRE, exon 13, 14, and complete cds	3.9
204	AF262582	Dolichorhinotermes sp. 'Manaus' 16S mitochondrial ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.045
205	AL360005	Human DNA sequence from clone RP11-436H17 on chromosome Xq26.1-27.1, complete sequence [Homo sapiens]	0.16
206	NM_019054	Homo sapiens hypothetical protein MGC5560 (MGC5560), mRNA	9E-35
207	AK014626	Mus musculus 10 days neonate skin cDNA, RIKEN full-length enriched library, clone:4731413G05, full insert sequence	0.82
208	AK027128	Homo sapiens cDNA: FLJ23475 fis, clone HSI13659	0.021
209	J00778	Rat pancreatic trypsin I gene, complete cds	0.016
210	D49412	Human gene for interleukin 3 receptor alpha subunit, exon 11	0.067
211	AY045578	Arabidopsis thaliana AT4g37000/C7A10_360 mRNA, complete cds	2
213	AJ011013	Cicer arietinum epicotyl EST, clone Can133	4.7
214	XM_008731	Homo sapiens meprin A, beta (MEP1B), mRNA	5.6
215	AL023830	Caenorhabditis elegans cosmid Y26E6A, complete sequence	0.084
216	AK027136	Homo sapiens cDNA: FLJ23483 fis, clone KAIA04052	6.6
217	U03554	Bacillus thuringiensis morrisoni EG2158 transposon Tn5401 site-specific recombinase (tnpI) and transposase (tpnA) genes, complete cds	0.46
218	XM_043584	Homo sapiens ankyrin repeat and SOCS box-containing 1 (ASB1), mRNA	2.2
219	AE001177	Borrelia burgdorferi (section 63 of 70) of the complete genome	0.094
220	AK018148	Mus musculus adult male medulla oblongata cDNA, RIKEN full-length enriched library, clone:6330408P11, full insert sequence	1.6
221	AF271148	Botryosphaeria ribis isolate 96-131 small subunit ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.65
222	XM_008090	Homo sapiens KIAA0419 gene product (KIAA0419), mRNA	0.25
223	Z54541	H.sapiens CpG island DNA genomic MseI fragment, clone 132c11, forward read cpg132c11.flb	6.4

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
225	XM_042689	Homo sapiens fasciculation and elongation protein zeta 2 (zygin II) (FEZ2), mRNA	0.69
226	AF317083	Anoplostoma viviparum isolate Brh10 large subunit ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.22
227	AE006436	Lactococcus lactis subsp. lactis IL1403 section 198 of 218 of the complete genome	0.029
228	AK027535	Homo sapiens cDNA FLJ14629 fis, clone NT2RP2000448, weakly similar to KES1 PROTEIN	7E-76
229	BC004209	Homo sapiens, NIMA (never in mitosis gene a)-related kinase 6, clone MGC:4434 IMAGE:2958695, mRNA, complete cds	3E-36
230	AC002183	Homo sapiens (subclone 2_h8 from BAC H111) DNA sequence, complete sequence	0.0000004
231	AF242489	Prochlorococcus marinus UreC (ureC), UreB (ureB), UreA (ureA), UreD (ureD), UreE (ureE), UreF (ureF), and UreG (ureG) genes, complete cds	0.0003
232	AF385396	Homo sapiens psoriasis susceptibility gene, partial sequence	0.027
233	AE006749	Sulfolobus solfataricus section 108 of 272 of the complete genome	2.1
234	X73501	H.sapiens gene for cytokeratin 20	0.25
235	AJ296801	Glyptotendipes pallens 18S rRNA gene (partial), 2S rRNA gene, 28S rRNA gene (partial), internal transcribed spacer 1 (ITS1) and internal transcribed spacer 2 (ITS2), clone Gpaits9	0.49
236	X17627	C. thummi DNA transposable element TECth1	0.59
237	AF157924	Eutamias dorsalis cytochrome b (cytb) gene, complete cds; mitochondrial gene for mitochondrial product	0.19
238	XM_040836	Homo sapiens similar to calcium channel, voltage-dependent, alpha 1H subunit (H. sapiens) (LOC91809), mRNA	0.38
239	AF097103	Oreina melanocephala 16S large subunit ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.23
240	AK013974	Mus musculus 13 days embryo head cDNA, RIKEN full-length enriched library, clone:3110002D09, full insert sequence	0.73
241	AK022073	Homo sapiens cDNA FLJ12011 fis, clone HEMBB1001653	0.26
242	XM_012392	Homo sapiens ubiquitin specific protease 8 (USP8), mRNA	2
243	AB048604	Mus musculus Neu-2 mRNA for sialidase, complete cds	0.54
244	AF275235	Drepanaphis utahensis 12S small subunit ribosomal RNA gene, partial sequence; tRNA-Val gene, complete sequence; and 16S large subunit ribosomal RNA gene, partial sequence; mitochondrial genes for mitochondrial products	0.076
245	XM_032956	Homo sapiens cat eye syndrome chromosome region, candidate 2 (CECR2), mRNA	2.2
246	XM_050246	Homo sapiens secretory protein SEC8; KIAA1699 protein (SEC8), mRNA	0
247	X69200	D.tigrina Dth-1 gene, exon 2	0.49
248	M33582	O.cuniculus beta-casein gene, complete cds	0.006
250	AB048604	Mus musculus Neu-2 mRNA for sialidase, complete cds	0.46

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
251	U48594	Heliothis virescens insect storage protein (SP4) mRNA, partial cds	0.022
252	AL162583	Human DNA sequence from clone RP1-250J21 on chromosome Xp11.22-11.4, complete sequence [Homo sapiens]	0.2
253	AF284038	Cucurbita maxima phloem serpin-1 mRNA, complete cds	0.19
254	AK026699	Homo sapiens cDNA: FLJ23046 fis, clone LNG02491	0.6
255	AF069199	Trioxys betulae NADH dehydrogenase 1 gene, mitochondrial gene encoding mitochondrial protein, partial cds	0.19
256	Z12028	L.pimpinellifolium gene encoding vacuolar invertase	0.7
257	AB041256	Panonychus mori mitochondrial CO1 gene for cytochrome oxidase subunit 1, partial cds, strain: TtDe	0.21
258	AK022820	Homo sapiens cDNA FLJ12758 fis, clone NT2RP2001328	0.25
259	AE006782	Sulfolobus solfataricus section 141 of 272 of the complete genome	1.4
260	AF027656	Homo sapiens cholesteryl ester transfer protein gene, promoter region	0.00004
261	Z57957	H.sapiens CpG island DNA genomic MseI fragment, clone 22b3, reverse read cpg22b3.rt1a	0.00003
262	AF266097	Orthetrum cancellatum large subunit ribosomal RNA gene, partial sequence; tRNA-Valine gene, complete sequence; and small subunit ribosomal RNA gene, partial sequence; mitochondrial genes for mitochondrial products	0.077
263	XM_003119	Homo sapiens dynein light chain-A (LOC51143), mRNA	5.6
264	AF099990	Rattus norvegicus Ste-20 related kinase SPAK mRNA, complete cds	0.54
265	AE007394	Streptococcus pneumoniae section 77 of 194 of the complete genome	2.2
266	L07545	Leishmania tarentolae kinetoplast mitochondrial MURF2 edited mRNA, complete cds	0.002
267	L09706	Homo sapiens complement component 2 (C2) gene allele b, exons 1 through 8	0.073
268	AF174326	Pauesia unilachni 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.063
269	Z79794	M.musculus dystrobrevin gene, exon 8	1.8
270	AB029325	Oryza sativa gene for water channel protein RWC3, promoter region and complete cds	1.7
271	U42461	Xenopus laevis neural specific DNA binding protein (Xgli3) mRNA, complete cds	1.6
272	XM_029784	Homo sapiens CGI-53 protein (LOC51098), mRNA	6E-23
273	D14011	Mouse reg II gene for regenerating protein II, complete cds	0.071
274	AF179235	Homo sapiens short-chain dehydrogenase/reductase 1 (SDR1) gene, exons 2, 3, and 4	2.1



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
275	AF264911	Campylobacter jejuni putative UDP-N-acetylmuramate-alanine ligase (murC) gene, partial cds; putative integral membrane protein, putative MutS (mutS), restriction and modification enzyme CjeI (cjeI), putative transferase, and putative integral membrane >	0.22
276	AF266074	Gomphus exilis large subunit ribosomal RNA gene, partial sequence; tRNA-Valine gene, complete sequence; and small subunit ribosomal RNA gene, partial sequence; mitochondrial genes for mitochondrial products	0.021
277	AF229988	Cryptosporidium parvum P-type ATPase3 gene, complete cds	1.9
278	AF250346	Xenopus laevis early growth response protein 1 (egr1) gene, partial cds	0.25
279	AL157448	Homo sapiens mRNA; cDNA DKFZp761E0311 (from clone DKFZp761E0311)	0.00001
280	AF386078	Homo sapiens serine-cysteine proteinase inhibitor clade C member 1 (SERPINC1) gene, complete cds	2.1
281	S80932	MVAT5-RX2 VSG=variant surface glycoprotein {promoter} [Trypanosoma brucei=African trypanosomes, Genomic, 6583 nt]	0.003
282	U09478	Dictyostelium discoideum KAx-3 LagC protein (lagC) mRNA, complete cds	0.008
283	U63580	Oxytricha fallax micronuclear actin I gene, partial sequence	0.022
284	AF348411	Macaca mulatta Per4 pseudogene sequence	0.0008
285	AF053645	Homo sapiens cellular apoptosis susceptibility protein (CSE1) gene, exons 3 through 10	0.0002
287	U90928	Arabidopsis thaliana glyoxalase II mitochondrial isozyme (Glx2-1) mRNA, nuclear gene encoding mitochondrial protein, complete cds	2.2
288	AB050751	Carabus pseudopusio mitochondrial ND5 gene for NADH dehydrogenase subunit 5, partial cds	1.6
289	AF275220	Prociphilus fraxinifolii 12S small subunit ribosomal RNA gene, partial sequence; tRNA-Val gene, complete sequence; and 16S large subunit ribosomal RNA gene, partial sequence; mitochondrial genes for mitochondrial products	0.003
290	NM_014358	Homo sapiens C-type (calcium dependent, carbohydrate-recognition domain) lectin, superfamily member 9 (CLECSF9), mRNA	0.009
291	D25274	Homo sapiens mRNA, clone:PO2ST9	1E-38
292	AF111936	Callithrix jacchus isolate MJ50037 alpha (1,2) fucosyltransferase (FUT1) gene, partial cds	1.8
293	AL592159	Human DNA sequence from clone RP13-237P14 on chromosome X, complete sequence [Homo sapiens]	0.18
294	AK013928	Mus musculus 13 days embryo head cDNA, RIKEN full-length enriched library, clone:3100003M19, full insert sequence	1.9
295	AF289199	Mus musculus junctin and aspartyl beta-hydroxylase (Asph) genes, partial cds	0.079

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
296	AE001425	Plasmodium falciparum chromosome 2, section 62 of 73 of the complete sequence	0.008
297	XM_011029	Homo sapiens LIM domain-containing preferred translocation partner in lipoma (LPP), mRNA	0.23
298	AF105034	Arabidopsis thaliana delta7 sterol C-5 desaturase (STE1) gene, complete cds	0.009
299	L77040	Homo sapiens (subclone 8_c11 from P1 H22) DNA sequence	9E-14
300	AF278536	Parastrongyloides trichosuri heat shock 70 protein gene, complete cds	0.61
302	Z28216	S.cerevisiae chromosome XI reading frame ORF YKL216w	1.7
303	AJ008049	Chrysolina colasi 16S rRNA gene	0.0007
304	AF280812	Glycine max putative Hs1pro-1-like receptor mRNA, complete cds	0.67
305	AK007831	Mus musculus 10 day old male pancreas cDNA, RIKEN full-length enriched library, clone:1810048N21, full insert sequence	0.047
306	AL163543	Human DNA sequence from clone RP11-424E21 on chromosome 13, complete sequence [Homo sapiens]	0.64
307	AF045022	Bos taurus phosphatidic acid-preferring phospholipase A1 mRNA, complete cds	5
308	AB052731	Oikopleura longicauda OilBra mRNA for brachyury protein, complete cds	1.8
309	AF194275	Holbrookia maculata clone HMFL 12S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	6.3
310	AJ400814	Dictyostelium discoideum srlA gene, alternative promoters	0.024
311	AK002854	Mus musculus adult male kidney cDNA, RIKEN full-length enriched library, clone:0610039P13, full insert sequence	0.68
312	U25177	Helobdella robusta cyclin A mRNA, partial cds	0.023
313	AK011102	Mus musculus 13 days embryo liver cDNA, RIKEN full-length enriched library, clone:2510044F14, full insert sequence	0.51
314	AK002181	Homo sapiens cDNA FLJ11319 fis, clone PLACE1010293	0.0006
315	U67282	Human mis5 homolog (MCM6) gene, exon x	0.014
316	XM_040357	Homo sapiens chromosome 6 open reading frame 5 (C6orf5), mRNA	1.5
317	AK006073	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:1700017M07, full insert sequence	6.7
318	AE001381	Plasmodium falciparum chromosome 2, section 18 of 73 of the complete sequence	0.18
319	NM_017678	Homo sapiens hypothetical protein FLJ20127 (FLJ20127), mRNA	3E-57
320	BC004680	Mus musculus, Similar to coxsackievirus and adenovirus receptor, clone MGC:5878 IMAGE:3500491, mRNA, complete cds	0.24
321	AK002181	Homo sapiens cDNA FLJ11319 fis, clone PLACE1010293	0.007
322	U90946	Dictyostelium discoideum myosin heavy chain kinase B (MHCK-B) mRNA, complete cds	0.003
323	Y14277	Drosophila melanogaster mRNA for nuclear protein SA	0.062

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
324	Z17272	H. sapiens DNA segment containing (CA) repeat; clone AFM248wc1; single read	0.25
325	M37526	E.gracilis chloroplast P-700 chlorophyll alpha apoprotein (psaA and psaB) genes, complete cds	0.025
326	Y14952	Mus musculus gene encoding immunoglobulin J chain precursor	0.24
327	AE006596	Streptococcus pyogenes M1 GAS strain SF370, section 125 of 167 of the complete genome	6.8
328	AF079804	Candida albicans N-acetyl-glucosamine-6-phosphate deacetylase (DAC1) and glucosamine-6-phosphate deaminase (NAG1) genes, complete cds; and hexokinase (H XK1) pseudogene, complete sequence	2
329	XM_029315	Homo sapiens Machado-Joseph disease (spinocerebellar ataxia 3, olivopontocerebellar ataxia 3, autosomal dominant, ataxin 3) (MJD), mRNA	7.8
330	AK022820	Homo sapiens cDNA FLJ12758 fis, clone NT2RP2001328	0.24
331	AF059275	Mus musculus heat shock transcription factor 1 (Hsf1) gene, partial cds	0.085
332	AL049263	Homo sapiens mRNA; cDNA DKFZp564F133 (from clone DKFZp564F133)	0.059
333	AP001233	Homo sapiens genomic DNA, chromosome 2p11.2, clone:cos607/2	0.003
334	AC017021	Homo sapiens BAC clone RP11-208M4 from 7, complete sequence	0.0000005
335	U03248	Human chromosome 21 clone pVC1.23c	3E-56
336	XM_046758	Homo sapiens tensin (TNS), mRNA	2
337	AJ279150	Homo sapiens partial TFNR gene for transcription factor-like nuclear regulator, exon 31	0
338	AF282896	Rattus norvegicus chemokine RANTES gene, promoter sequence	0.001
339	AK000939	Homo sapiens cDNA FLJ10077 fis, clone HEMBA1001864	0.21
340	AF188517	Staphylococcus aureus Blt-like protein SbtA (sbtA) gene, complete cds	0.008
341	AF202562	Homo sapiens DNA methyltransferase (DNMT1) gene, exon 13	0.22
342	XM_017967	Homo sapiens hypothetical protein FLJ13732 similar to tensin (FLJ13732), mRNA	2.7
343	AF051685	Homo sapiens clone SBS-12 SATB1 binding sequence in vivo	0.21
344	M77188	Campylobacter jejuni argininosuccinate lyase (argH) gene, complete cds	0.22
345	U95137	Rattus norvegicus Na <sup>+</sup> -Ca <sup>+</sup> exchanger (NCX1) gene, exon 1-Ht	0.24
346	AK019943	Mus musculus 6 days neonate head cDNA, RIKEN full-length enriched library, clone:5430403G16, full insert sequence	0.74
347	BC005571	Mus musculus, ubiquitin specific protease 14, clone MGC:7106 IMAGE:3157723, mRNA, complete cds	0.41
348	XM_026968	Homo sapiens hypothetical protein MGC2668 (MGC2668), mRNA	4E-16

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
349	AK024903	Homo sapiens cDNA: FLJ21250 fis, clone COL01253, highly similar to AB020527 Homo sapiens mRNA for Na/PO4 cotransporter homolog	7E-28
350	U85645	Oryctolagus cuniculus fructose 1,6, biphosphate aldolase (AldB) gene, complete cds	0.075
351	AF388026	Homo sapiens fibrinogen, B beta polypeptide (FGB) gene, complete cds	5.8
352	AY028321	Homo sapiens pro-melanin-concentrating hormone-like 2 protein (PMCHL2) gene, exons 4, 5a, and 5b, alternatively spliced	0.0003
353	AL513491	Human DNA sequence from clone RP11-79A21 on chromosome X, complete sequence [Homo sapiens]	1.9
354	M92068	Chimpanzee retrovirus-like sequence-isoleucine b (RTVL-Ib) gene, 5' and 3' LTR	1.5
355	XM_002120	Homo sapiens zinc finger protein 262 (ZNF262), mRNA	0.007
356	X02435	Tetrahymena mitochondrial gene for tRNA-Phe (GAA)	0.028
357	XM_033459	Homo sapiens syntaxin binding protein 1 (STXBPI), mRNA	2.1
358	NM_015770	Mus musculus non-agouti (a), mRNA	0.64
359	AJ296103	Staphylococcus aureus repNVH99 gene for replication protein and smr gene	0.15
360	Z12840	O.cuniculus mRNA for protein of unknown function	e-131
361	XM_038370	Homo sapiens hypothetical gene supported by AK001938; AK001941 (LOC91424), mRNA	0.0002
362	AF108684	Rhipidomys mastacalis cytochrome B (cytB) gene, mitochondrial gene encoding mitochondrial protein, partial cds	0.009
363	NM_020045	Mus musculus HIRA-interacting protein 5 (HIRIP5), mRNA	1.8
364	AK024439	Homo sapiens mRNA for FLJ00029 protein, partial cds	0.73
365	AK025445	Homo sapiens cDNA: FLJ21792 fis, clone HEP00441	2.1
366	AP000307	Homo sapiens genomic DNA, chromosome 21q22.1, D21S226-AML region, clone:f6C7, complete sequence	0.00004
367	AE000818	Methanobacterium thermoautotrophicum from bases 264585 to 276866 (section 24 of 148) of the complete genome	2.3
368	AK001164	Homo sapiens cDNA FLJ10302 fis, clone NT2RM2000042	0.13
369	XM_029101	Homo sapiens KIAA0947 protein (KIAA0947), mRNA	0.95
370	AK022191	Homo sapiens cDNA FLJ12129 fis, clone MAMMA1000198	0.029
371	Z54280	S.scrofa gene for skeletal muscle ryanodine receptor	1.9
372	AY037259	Arabidopsis thaliana AT3g52120/F4F15_230 mRNA, complete cds	9.6
373	XM_034599	Homo sapiens acid sphingomyelinase-like phosphodiesterase (ASM3A), mRNA	0
374	XM_046914	Homo sapiens SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily f, member 1 (SMARCF1), mRNA	3E-16
375	M86340	Mycoplasma-like sp. 23S and 16S ribosomal RNAs, Tyr-transfer RNA and Ile-transfer RNA, complete cds	0.24
376	AB019507	Drosophila kanekoi gene for glycerol-3-phosphate dehydrogenase, complete cds	1.3

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
377	AF106915	Phodopus sungorus luteinizing hormone beta subunit mRNA, partial cds	0.61
378	AL354800	Human DNA sequence from clone RP1-31615 on chromosome 20 Contains the 3' end of the KIF3B gene encoding a kinesin family member 3B (KIAA0359) and ESTs, complete sequence [Homo sapiens]	0.0001
379	AL133430	Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 233360	0.66
380	AF085894	Homo sapiens full length insert cDNA clone YP97D11	0.0002
381	AJ286750	Sesbania rostrata mRNA for phosphoenolpyruvate carboxylase (pepc gene)	0.068
382	XM_040415	Homo sapiens region containing hypothetical protein; mutL (E. coli) homolog 3 (LOC82389), mRNA	e-128
383	Y09794	A.rabiei microsatellite DNA	1.2
384	AB047905	Macaca fascicularis brain cDNA, clone:QnpA-15911	1.8
385	AK001451	Homo sapiens cDNA FLJ10589 fis, clone NT2RP2004389, weakly similar to PROBABLE MITOCHONDRIAL 40S RIBOSOMAL PROTEIN S9 PRECURSOR	1.5
386	AF010473	Schizosaccharomyces pombe myosin-like protein Sp8 (sp8) mRNA, partial cds	0.19
388	AL133604	Homo sapiens mRNA; cDNA DKFZp434G1615 (from clone DKFZp434G1615)	0.00006
389	XM_009252	Homo sapiens methyl-CpG binding domain protein 3 (MBD3), mRNA	0.055
390	AB053116	Polyandrocampa misakiensis mRNA for putative eukaryotic petide chain release factor subunit 1, complete cds	1.5
391	AL138666	S.pombe chromosome I cosmid c694	1.3
392	AF091933	Pleurotus ostreatus small subunit ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.078
393	Z37964	Staphylococcus sp. genes encoding QacC and replication protein (rep827)	0.073
394	AB020712	Homo sapiens mRNA for KIAA0905 protein, complete cds	2E-64
395	BC009023	Mus musculus, Similar to prostaglandin E receptor 4 (subtype EP4), clone MGC:7183 IMAGE:3481696, mRNA, complete cds	1.5
396	XM_010128	Homo sapiens odz (odd Oz/ten-m, Drosophila) homolog 1 (ODZ1), mRNA	0.55
397	XM_011386	Homo sapiens hypothetical protein PRO0813 (PRO0813), mRNA	5.3
398	XM_040694	Homo sapiens AD031 protein (AD031), mRNA	1.3
399	AE006177	Pasteurella multocida PM70 section 144 of 204 of the complete genome	5
400	AL113079	Botrytis cinerea strain T4 cDNA library under conditions of nitrogen deprivation	1.2
401	U39694	Mycoplasma genitalium section 16 of 51 of the complete genome	0.84
402	XM_016314	Homo sapiens ankyrin 2, neuronal (ANK2), mRNA	4.6

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
403	XM_045362	Homo sapiens likely homolog of rat kinase D-interacting substance of 220 kDa; KIAA1250 protein (KIAA1250), mRNA	7E-77
404	NM_028513	Mus musculus RIKEN cDNA 1700052K15 gene (1700052K15Rik), mRNA	9
405	U47416	Solanum allophyllum NADH dehydrogenase subunit (ndhF) gene, chloroplast gene encoding chloroplast protein, partial cds	0.2
406	NC_002502	Lactococcus lactis subsp. lactis plasmid pCI305, complete sequence	5.3
407	AF269561	Staphylococcus epidermidis strain SR1 clone step.1010e06 genomic sequence	0.19
409	AF336128	Lumpy skin disease virus strain Neethling, 5' partial sequence	1.5
410	AB058397	Oryza sativa CHS gene for chalcone synthase, complete cds	0.16
411	AE006830	Sulfolobus solfataricus section 189 of 272 of the complete genome	0.21
412	AY035064	Arabidopsis thaliana unknown protein (T20O10_100/AT3g63000) mRNA, complete cds	0.22
413	AF158049	Platybrachys decemmacula 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.063
414	NM_026444	Mus musculus citrate synthase (Cs), mRNA	1.7
415	BC007820	Homo sapiens, clone IMAGE:4303165, mRNA	0
416	AJ295228	Caenorhabditis elegans mRNA for MAGUK protein DLG-1 (dlg-1 gene)	0.2
417	AB028633	Flammulina velutipes mitochondrial gene for DNA polymerase, RNA polymerase, complete and partial cds	0.6
418	Y09794	A.rabiei microsatellite DNA	1.2
419	AB054063	Pagrus major lpl gene for lipoprotein lipase, complete cds	5.9
420	AF323928	Plasmodium falciparum GcpE (gcpE) gene, complete cds	0.14
421	M31012	Chicken MHC class I B-FIV-B12 alpha-chain gene, complete cds	1.2
422	Z49806	B.taurus mRNA for adenylyl cyclase type VII	6.1
423	AB009907	Luciola kuroiwae mitochondrial DNA for 16S rRNA, partial sequence	0.003
424	X76693	C.coli (UA585) sodB gene for superoxide dismutase	0.45
425	AF284942	Carex capitata tRNA-Thr, partial sequence; trnT-trnL intergenic spacer, tRNA-Leu, and trnL-trnF intergenic spacer, complete sequence; and tRNA-Phe, partial sequence; chloroplast genes for chloroplast products	0.29
426	AK017986	Mus musculus adult male thymus cDNA, RIKEN full-length enriched library, clone:5830443G21, full insert sequence	5.1
427	AL512549	S.pombe chromosome I BAC pB2B4	1.6
428	AF283669	Homo sapiens kallikrein 14 (KLK14) gene, complete cds	2.3
429	Z12842	O.cuniculus mRNA for protein of unknown function	5E-73
430	XM_016894	Homo sapiens LOC86241 (LOC86241), mRNA	3E-65
431	X96616	P.primaurelia gene encoding 156D surface antigen	0.23
432	X02175	Schizosaccharomyces pombe cdc10 start gene	0.027
433	AK021807	Homo sapiens cDNA FLJ11745 fis, clone HEMBA1005526	0.001

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
434	XM_005233	Homo sapiens protein phosphatase 2 (formerly 2A), regulatory subunit B (PR 52), alpha isoform (PPP2R2A), mRNA	5E-09
435	X52623	Rice 4-CL gene for 4-coumarate-CoA ligase (EC 6.2.1.12)	0.63
436	AK005294	Mus musculus adult male cerebellum cDNA, RIKEN full-length enriched library, clone:1500019O16, full insert sequence	1E-16
437	AE002337	Chlamydia muridarum, section 65 of 85 of the complete genome	0.049
438	AF106574	Caenorhabditis elegans cosmid E02D9, complete sequence	0.7
439	X56866	S.alba 5S rRNA gene	0.74
440	AF127158	Drosophila mauritiana Cu-Zn superoxide dismutase (Sod) gene, exons 1 and 2 and complete cds	1.7
441	U08466	Nephila clavipes alanine tRNA gene, complete sequence	2.1
442	AY021236	Oryza sativa microsatellite MRG3561 containing (TA)X22, genomic sequence	1.5
443	L09262	Arabidopsis thaliana phytochrome b gene, exons 2 and 3	0.079
444	AC007095	Homo sapiens BAC clone RP11-303A22 from 7, complete sequence	0.23
445	AK012607	Mus musculus 11 days embryo cDNA, RIKEN full-length enriched library, clone:2700094F01, full insert sequence	0.19
446	AF309415	Cyprinus carpio ovarian fibroin-like substance-2 mRNA, partial cds	0.008
447	X03956	Potato (tetraploid variety Maris piper) patatin gene	0.003
448	BC008617	Mus musculus, clone IMAGE:3588380, mRNA, partial cds	0.07
449	AJ242146	Mauritiella armata 18S rRNA gene (partial), 5.8S rRNA gene, 26S rRNA gene (partial) and internal transcribed spacers 1 and 2 (ITS1, ITS2), clone 1	0.07
450	M67489	Bovine desmocollin mRNA, complete cds	0.066
451	AB048954	Macaca fascicularis brain cDNA, clone:QnpA-10509	0.48
452	AE001136	Borrelia burgdorferi (section 22 of 70) of the complete genome	0.18
453	AE001398	Plasmodium falciparum chromosome 2, section 35 of 73 of the complete sequence	0.025
454	AF218904	Homo sapiens attractin precursor (ATRN) gene, exon 19	1.6
455	AK025078	Homo sapiens cDNA: FLJ21425 fis, clone COL04162	1E-71
456	M11449	Yeast mitochondrial ori2-ori7 region DNA with putative peptide	0.34
457	XM_031156	Homo sapiens hypothetical gene supported by AB007970 (LOC90360), mRNA	0.006
458	AK015180	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930422I22, full insert sequence	0.007
459	AC090422	Homo sapiens clone RP11-691A12, complete sequence	0.013
460	U06154	Human clone 2004V-I-1 from chromosome 1q terminal region	1E-19
461	AE001123	Borrelia burgdorferi (section 9 of 70) of the complete genome	0.83
462	Y17797	Enterococcus faecalis gph, ydjH, ydjG, ydjI, pbp4 and ydiC, ORF2 and ORF3 genes, partial	0.22
463	AB026906	Homo sapiens SDHD gene for small subunit of cytochrome b of succinate dehydrogenase, complete cds	0.042
464	L13942	Human (clone Cos35) glycerol kinase (GK) gene, exons 1-3	0.042
465	U81510	Spodoptera frugiperda caspase-1 mRNA, complete cds	0.041

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
466	AJ003222	Borrelia burgdorferi flgK, flbF, thdF, gidA, gidB, moxR, orf1, orf2, orf3, orf4 and orf5 genes	0.58
467	AY034379	Capsicum annuum branched-chain amino acid aminotransferase mRNA, complete cds	1.8
468	AF120317	Mus musculus mahogany (mg) gene, exons	0.56
469	AE007451	Streptococcus pneumoniae section 134 of 194 of the complete genome	0.005
470	AF305819	Homo sapiens PRO0777 mRNA, complete cds	0.055
471	AF045950	Mus musculus D16Jhu5 YAC 183G11 acentric end, partial sequence	0.22
473	XM_010416	Homo sapiens GTP-binding protein ragB (RAGB), mRNA	0.14
474	XM_028004	Homo sapiens amyotrophic lateral sclerosis 2 (juvenile) chromosome region, candidate 3 (ALS2CR3), mRNA	0.00005
475	AK021820	Homo sapiens cDNA FLJ11758 fis, clone HEMBA1005609, highly similar to Homo sapiens mRNA; cDNA DKFZp564K133 (from clone DKFZp564K133)	0.004
476	AE002579	Drosophila melanogaster genomic scaffold 142000013385638, complete sequence	6.7
477	AF047677	Homo sapiens dystrophin (DMD) gene, deletion breakpoints 1-3 in intron 5	0.64
478	AL589203	Human DNA sequence from clone RP11-391F23 on chromosome 6, complete sequence [Homo sapiens]	0.00009
479	AF265343	Danio rerio protein kinase Npk mRNA, complete cds	0.14
480	XM_031879	Homo sapiens CREB/ATF family transcription factor (CREB-H), mRNA	0.44
481	XM_050760	Homo sapiens ATP-binding cassette, sub-family C (CFTR/MRP), member 2 (ABCC2), mRNA	0.077
482	AF069508	Homo sapiens human endogenous retrovirus HML6.28 gag and pol pseudogenes, complete sequence	0.23
483	AK022914	Homo sapiens cDNA FLJ12852 fis, clone NT2RP2003445	2
484	XM_032753	Homo sapiens hypothetical gene supported by AK022412 (LOC90584), mRNA	1.9
485	XM_018436	Homo sapiens hypothetical protein FLJ14327 (FLJ14327), mRNA	0.66
486	AF130764	Equus caballus FN1 gene, partial sequence	4
487	AK024286	Homo sapiens cDNA FLJ14224 fis, clone NT2RP3004028	2E-18
488	AF348342	Plasmodium malariae caseinolytic protease C (clpC) gene, partial cds; apicoplast gene for apicoplast product	0.23
489	XM_029336	Homo sapiens similar to potassium voltage-gated channel, subfamily H (eag-related), member 2; ether a go-go related (M. musculus) (LOC90134), mRNA	6.2
490	BC005951	Homo sapiens, clone MGC:14588 IMAGE:4249174, mRNA, complete cds	5E-35
491	AJ391749	Vicia melanops genomic repetitive element, clone M29	0.13
492	AF154170	Sceloporus dugesii 12S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.21





Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
523	AF270382	Staphylococcus epidermidis strain SR1 clone step.4041f02 genomic sequence	0.23
524	AF284897	Carex supina tRNA-Thr, partial sequence; trnT-trnL intergenic spacer, tRNA-Leu, and trnL-trnF intergenic spacer, complete sequence; and tRNA-Phe, partial sequence; chloroplast genes for chloroplast products	0.23
525	AK000493	Homo sapiens cDNA FLJ20486 fis, clone KAT08039	0.17
526	U67535	Methanococcus jannaschii section 77 of 150 of the complete genome	0.6
527	AE002754	Drosophila melanogaster genomic scaffold 142000013385431, complete sequence	1.8
528	AF241656	Caenorhabditis elegans SR protein specific kinase SPK-1 mRNA, complete cds	1.7
529	AF173828	Caenorhabditis elegans putative potassium channel Slo-2 mRNA, complete cds	0.21
530	AE005382	Escherichia coli O157:H7 EDL933 genome, contig 3 of 3, section 1 of 290	2.3
531	Z36154	S.cerevisiae chromosome II reading frame ORF YBR285w	0.68
532	AF054126	Rattus norvegicus polymorphic marker D6UIA6 sequence	0.061
533	AK004780	Mus musculus adult male lung cDNA, RIKEN full-length enriched library, clone:1200015C19, full insert sequence	0.7
534	AF352555	Staphylococcus aureus subsp. aureus strain ATCC31889 leukocidin LukS component gene, partial cds	0.2
535	AF352555	Staphylococcus aureus subsp. aureus strain ATCC31889 leukocidin LukS component gene, partial cds	0.1
536	J05246	Mouse alpha-fetoprotein (AFP) gene, 5' flank	0.024
537	AF021935	Rattus norvegicus myotonic dystrophy kinase-related Cdc42-binding kinase (MRCK) mRNA, complete cds	e-141
538	Y12573	D.melanogaster Jun and 14-3-3 zeta gene	0.5
539	AF248584	Moraxella catarrhalis UDP-glucose dehydrogenase gene, partial cds; and UDP-glucose 4-epimerase (gale) and L-glutamine:D-fructose-6-phosphate aminotransferase (glmS) genes, complete cds	0.026
540	AL136554	Homo sapiens mRNA; cDNA DKFZp761D0712 (from clone DKFZp761D0712)	0.089
541	AF158049	Platybrachys decemmacula 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.082
542	AY023618	Oryza sativa microsatellite MRG5943 containing (TTA)X55, closest to marker RG908, genomic sequence	0.00009
543	AL591498	Human DNA sequence from clone RP11-113L12 on chromosome 13, complete sequence [Homo sapiens]	3E-14
544	AF183908	Danio rerio P450 aromatase (cyp19b) mRNA, complete cds	0.069
545	AK016658	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4933405A14, full insert sequence	0.53
546	AB014084	Homo sapiens genomic DNA, chromosome 6p21.3, HLA class I region, Cosmid clone:TY7A5, complete sequence	0.011

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
547	AF285076	Scleria reticularis tRNA-Leu, partial sequence; trnL-trnF intergenic spacer, complete sequence; and tRNA-Phe, partial sequence; chloroplast genes for chloroplast products	0.19
548	XM_047604	Homo sapiens coproporphyrinogen oxidase (coproporphyrin, harderoporphyrin) (CPO), mRNA	0.17
549	Z81538	Caenorhabditis elegans cosmid F45H10, complete sequence	0.24
550	AF026800	Fundulus heteroclitus cytochrome P4501A (CYP1A) mRNA, complete cds	1.9
551	XM_051897	Homo sapiens phospholipase A2, group IVA (cytosolic, calcium-dependent) (PLA2G4A), mRNA	9E-08
552	XM_015200	Homo sapiens hypothetical protein FLJ22724 (FLJ22724), mRNA	2.1
553	AF266244	Gillichthys mirabilis adenylate cyclase type v-like protein mRNA, complete cds	6
554	Z21818	H.sapiens carcinoembryonic antigen gene	0.23
555	AE002100	Ureaplasma urealyticum section 1 of 59 of the complete genome	0.023
556	XM_045179	Homo sapiens hypothetical gene supported by AL137724 (LOC92454), mRNA	0.19
557	X16509	Rice alpha-amylase gene	1.8
558	M33753	D.melanogaster crumbs protein mRNA, complete cds	5.4
559	D32022	Human mRNA for T cell receptor V beta 8 CDR3, partial sequence	1.5
560	AF188893	Homo sapiens guanidinoacetate N-methyltransferase (GAMT) gene, complete cds	0.18
561	AF367310	Arabidopsis thaliana At2g36880/T1J8.6 gene, complete cds	0.11
562	AF207699	Elaeis guineensis agamous-like MADS box protein OPMADS1 mRNA, complete cds	0.45
564	AB014586	Homo sapiens mRNA for KIAA0686 protein, partial cds	0.17
565	L77040	Homo sapiens (subclone 8_c11 from P1 H22) DNA sequence	8E-14
566	NM_024942	Homo sapiens hypothetical protein FLJ13490 (FLJ13490), mRNA	0.013
567	U88158	Tetrahymena thermophila micronuclear developmentally eliminated sequence region	0.18
568	AF210744	Nannochloropsis oculata large subunit ribosomal RNA gene, partial sequence	0.057
569	AL590384	Human DNA sequence from clone RP11-349A16 on chromosome Xq22.3-24, complete sequence [Homo sapiens]	2E-15
570	AY034379	Capsicum annuum branched-chain amino acid aminotransferase mRNA, complete cds	1.2
571	AF038283	Campylobacter jejuni cytolethal distending toxin A (cdtA), cytolethal distending toxin B (cdtB), and cytolethal distending toxin C (cdtC) genes, complete cds	0.4
572	X98807	A.thaliana mRNA for peroxidase ATP21a	1.8
573	AF111941	Dictyostelium discoideum AX4 development protein DG1148 (DG1148) gene, complete cds	0.0009

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
574	AE002247	<i>Chlamydomonas reinhardtii</i> AR39, section 74 of 94 of the complete genome	1.7
575	AF247555	<i>Drosophila mauritiana</i> heat shock protein 68 gene, partial cds	1.4
576	AJ237599	<i>Gallus gallus</i> mRNA for iroquois homologue-2	0.056
577	NM_030995	<i>Rattus norvegicus</i> Microtubule-associated protein 1a (Map1a), mRNA	0.21
578	XM_027638	<i>Homo sapiens</i> KIAA0240 protein (KIAA0240), mRNA	1.5
579	AF310886	<i>Dictyostelium discoideum</i> RacA (racA) gene, complete cds	0.065
580	AB001090	<i>Homo sapiens</i> gene for H-cadherin, exon 1	0.2
581	BC009101	<i>Mus musculus</i> , Similar to hypothetical protein DKFZp761C121, clone MGC:12146 IMAGE:3710846, mRNA, complete cds	0.0008
582	XM_011473	<i>Homo sapiens</i> serine (or cysteine) proteinase inhibitor, clade B (ovalbumin), member 9 (SERPINB9), mRNA	1.8
583	AF004051	<i>Galium hypocarpium</i> rps16 gene, chloroplast gene, partial intron sequence	0.068
584	AE007440	<i>Streptococcus pneumoniae</i> section 123 of 194 of the complete genome	0.066
585	L25647	<i>Homo sapiens</i> fibroblast growth factor receptor gene (located in the central MHC) signal peptide and consecutive exon	0.069
586	AF191079	Stealth virus 1 clone 3B632, genomic sequence	0.009
587	L20465	<i>Onchocerca volvulus</i> nicotinic acetylcholine receptor mRNA, partial cds	0.72
588	NM_008713	<i>Mus musculus</i> nitric oxide synthase 3, endothelial cell (Nos3), mRNA	2
589	NM_004052	<i>Homo sapiens</i> BCL2/adenovirus E1B 19kD-interacting protein 3 (BNIP3), nuclear gene encoding mitochondrial protein, mRNA	4E-26
590	U40228	<i>Plasmodium falciparum</i> ADP-ribosylation factor 1 (pARF1) mRNA, complete cds	0.009
591	AL049435	<i>Homo sapiens</i> mRNA; cDNA DKFZp586B0220 (from clone DKFZp586B0220)	0.008
592	AC000981	<i>Homo sapiens</i> (subclone 2_c6 from P1 H31) DNA sequence, complete sequence	0.68
593	AF304319	<i>Neospora caninum</i> small subunit ribosomal RNA and large subunit ribosomal RNA genes, partial sequences and intergenic region, plastid genes for plastid products	0.009
594	BC006517	<i>Homo sapiens</i> , Similar to PPAR binding protein, clone IMAGE:3546031, mRNA	7E-43
595	AJ249162	<i>Homo sapiens</i> promotor enhancer from ISG20 gene	2.1
596	AJ297708	<i>Rattus norvegicus</i> RT6 gene for T cell differentiation marker RT6.2, exons 1-8	0.024
597	Y11779	<i>R. prowazekii</i> ygiT-like gene and 4 open reading frames	0.078
598	AE005660	<i>Escherichia coli</i> O157:H7 EDL933 genome, contig 3 of 3, section 279 of 290	0.53
599	XM_041617	<i>Homo sapiens</i> RAB11B, member RAS oncogene family (RAB11B), mRNA	4.8
600	AK023165	<i>Homo sapiens</i> cDNA FLJ13103 fis, clone NT2RP3002304	0.25

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
601	Z69388	Human DNA sequence from cosmid L60G9A, Huntington's Disease Region, chromosome 4p16.3 contains ESTs and a CpG island	0.084
602	U84760	Chromatium vinosum dsr locus, complete sequence	0.022
603	AF122050	Hordeum vulgare limit dextrinase gene, complete cds	1.8
604	AJ308471	Mus musculus partial gene for acetyl-CoA carboxylase-alpha, promoter I	0.022
605	AF158032	Cixius inflatus 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.008
607	XM_012733	Homo sapiens KIAA1012 protein (KIAA1012), mRNA	0.005
608	D37781	Human mRNA for protein-tyrosine phosphatase HPTPeta, complete cds	0.059
609	AC002252	Homo sapiens (subclone 1_g7 from BAC H76) DNA sequence, complete sequence	7E-11
610	AF160964	Peanut witches'-broom phytoplasma RNA polymerase sigma factor (rpoD) gene, complete cds	0.63
611	U67528	Methanococcus jannaschii section 70 of 150 of the complete genome	0.67
612	AF063134	Justicia caudata tRNA-Leu (trnL) gene, chloroplast gene for chloroplast RNA, partial sequence	1.2
613	U67527	Methanococcus jannaschii section 69 of 150 of the complete genome	1.5
614	AK022455	Homo sapiens cDNA FLJ12393 fis, clone MAMMA1002711	0.000001
615	AF272082	Poiretia punctata trnK gene, intron, 3' partial sequence; and maturase (matK) gene, partial cds; chloroplast genes for chloroplast products	0.075
616	AF112461	Homo sapiens G protein-coupled receptor 57 (GPR57) gene, complete cds	0.025
617	AF310884	Dictyostelium discoideum Rac1B (rac1B) gene, complete cds; racK pseudogene, complete sequence; and unknown genes	5.6
618	AF348342	Plasmodium malariae caseinolytic protease C (clpC) gene, partial cds; apicoplast gene for apicoplast product	0.22
619	AB043965	Danio rerio gene for dharma, promoter and partial cds	0.054
620	NC_001839	Petunia vein clearing virus, complete genome	0.61
621	AK023959	Homo sapiens cDNA FLJ13897 fis, clone THYRO1001706	0.67
622	AF028835	Drosophila pallidosa vermilion (v) gene, complete cds	0.13
623	U67598	Methanococcus jannaschii section 140 of 150 of the complete genome	0.072
624	AF283103	Pineapple mealybug wilt associated virus-2 polyprotein (ORF1a) and RNA-dependent RNA polymerase genes, partial cds; and hydrophobic protein p5, heat shock protein 70, p46, coat protein, diverged coat protein, p20, p22, and p6 genes, complete cds	1.5
625	XM_008161	Homo sapiens hypothetical protein FLJ20345 (FLJ20345), mRNA	1E-15
626	XM_035599	Homo sapiens adaptor-related protein complex 4, epsilon 1 subunit (AP4E1), mRNA	6E-22

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
627	AF143066	Lepidopilum scabrisetum ribosomal protein system 4 (rps4) gene, partial cds	0.61
628	U89283	Biomphalaria glabrata myoglobin gene, complete cds	0.46
629	U44949	Xenopus laevis zona pellucida A glycoprotein homolog (xlZPA) mRNA, complete cds	1.6
630	AE007395	Streptococcus pneumoniae section 78 of 194 of the complete genome	0.15
631	BC006963	Mus musculus, clone IMAGE:3708410, mRNA, partial cds	1.6
632	XM_031120	Homo sapiens peptidylglycine alpha-amidating monooxygenase (PAM), mRNA	4E-40
633	AF316122	Kinosternon arizonense isolate KariAZ2 mitochondrial control region, complete sequence	0.69
634	U67561	Methanococcus jannaschii section 103 of 150 of the complete genome	0.22
635	D88010	Human DNA for ribosomal protein S13, complete cds, U14 small nucleolar RNA, complete sequence	0.24
636	AE006321	Lactococcus lactis subsp. lactis IL1403 section 83 of 218 of the complete genome	2.2
637	AF045595	Carassius auratus clone gf-40 glutamic acid decarboxylase isoform 67 (GAD67) mRNA, complete cds	0.74
638	D38378	Human DNA, novel tandem repeat sequence	0.21
639	AF260819	Plasmodium falciparum CGI protein gene, complete cds	0.003
640	NC_000857	Ceratitidis capitata complete mitochondrial genome	0.23
641	AK015383	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930444M15, full insert sequence	2.1
642	AF286367	Homo sapiens HMGIY gene, promoter	1.6
643	AK019143	Mus musculus 10 days embryo cDNA, RIKEN full-length enriched library, clone:2600001P13, full insert sequence	0.69
644	AE001421	Plasmodium falciparum chromosome 2, section 58 of 73 of the complete sequence	2
645	D16904	Human HepG2 3' region cDNA, clone hmd3a02	0.21
646	XM_003799	Homo sapiens protocadherin beta 10 (PCDHB10), mRNA	0.69
647	NC_001438	Bean golden mosaic virus A component DNA, complete sequence	0.66
648	AK013971	Mus musculus 13 days embryo head cDNA, RIKEN full-length enriched library, clone:3110001P07, full insert sequence	2
649	AF078880	Prosimulium formosum dopa decarboxylase (DDC) gene, partial cds	0.076
650	AJ009600	Begonia taipeiensis rbcL promoter, clone 16320	0.22
651	AF042834	Homo sapiens phosphodiesterase delta subunit gene, exons 2, 3 and 4	5.8
652	AF244214	Dysdera ratonensis 16S ribosomal RNA gene, partial sequence	0.075
653	XM_043252	Homo sapiens PCAF associated factor 65 alpha (PAF65A), mRNA	2E-33

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
654	AF105116	<i>Streptococcus pneumoniae</i> type 19C Cps19CR (cps19CR) gene, partial cds; putative oligosaccharide repeat unit transporter (cps19CJ), UDP-N-acetyl glucosamine-2-epimerase (cps19CK), and putative glucosyl transferase (cps19CS) genes, complete cds; and gluc>	1.9
655	AF181720	<i>Homo sapiens</i> RU2AS (RU2) gene, complete cds; and RU2S (RU2) gene, partial cds	0.23
656	AL392164	Human DNA sequence from clone RP11-269L6 on chromosome X, complete sequence [ <i>Homo sapiens</i> ]	0.0003
657	AF189720	<i>Oryctolagus cuniculus</i> chloride channel (CFTR) mRNA, complete cds	0.18
658	AF077821	<i>Canis familiaris</i> inducible nitric oxide synthase mRNA, complete cds	0.077
659	NC_001327	<i>Ascaris suum</i> mitochondrion, complete genome	0.074
660	XM_003164	<i>Homo sapiens</i> KIAA0218 gene product (KIAA0218), mRNA	5.8
661	M22207	<i>T.gratilla</i> 217g gene encoding 217g protein, complete cds	0.071
662	BC004062	<i>Mus musculus</i> , Similar to cofactor required for Sp1 transcriptional activation, subunit 6 (77kD), clone IMAGE:3590309, mRNA, partial cds	0.22
663	AF007132	<i>Homo sapiens</i> clone 23551 mRNA sequence	0.023
666	XM_007847	<i>Homo sapiens</i> hypothetical protein from clone 24796 (LOC57146), mRNA	5E-32
667	AE002755	<i>Drosophila melanogaster</i> genomic scaffold 142000013385531, complete sequence	5.8
668	U70780	<i>Clostridium botulinum</i> unidentified protein P-48 gene, complete cds and neurotoxin binding protein gene, partial cds	0.075
669	XM_029131	<i>Homo sapiens</i> similar to KIAA0773 gene product ( <i>H. sapiens</i> ) (LOC90115), mRNA	2
670	XM_003091	<i>Homo sapiens</i> KIAA0001 gene product; putative G-protein-coupled receptor; G protein coupled receptor for UDP-glucose (KIAA0001), mRNA	1.7
671	AF284881	<i>Carex pauciflora</i> tRNA-Thr, partial sequence; trnT-trnL intergenic spacer, tRNA-Leu, and trnL-trnF intergenic spacer, complete sequence; and tRNA-Phe, partial sequence; chloroplast genes for chloroplast products	1.6
672	NC_001381	Plasmid pAL5000, complete sequence	6.1
673	AF081201	<i>Arabidopsis thaliana</i> villin 1 (VLN1) mRNA, complete cds	0.21
674	AK023674	<i>Homo sapiens</i> cDNA FLJ13612 fis, clone PLACE1010833, weakly similar to CALTRACTIN	0.54
675	X60097	<i>Streptococcus</i> sp. (group C) emm gene for M protein	0.063
676	AF026087	<i>Schizosaccharomyces pombe</i> Sat1 gene, partial cds	0.22
677	X00117	Galago Alu repeat type I, GAL9	0.0001
678	AJ276629	<i>Rattus norvegicus</i> Sacm21/RT1-A intergenic region, haplotype RT1n and partial RT1-A gene for MHC Class I antigen	1.9
679	AK021058	<i>Mus musculus</i> adult male corpus striatum cDNA, RIKEN full-length enriched library, clone:C030009O12, full insert sequence	0.23





Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
707	AF023840	Homo sapiens natural killer group protein 2-A (NKG2-A) gene, complete cds	0.68
708	U49023	Tegeticula maculata extranea cytochrome oxidase subunit I, cytochrome oxidase subunit II genes, mitochondrial genes encoding mitochondrial proteins, partial cds, and tRNA-Leu gene, mitochondrial gene	0.001
709	XM_044768	Homo sapiens similar to death receptor 6 (H. sapiens) (LOC92385), mRNA	e-126
710	D50006	Human DNA for alpha-platelet-derived growth factor receptor, exon 6-10	2.1
711	Y14524	Tetrahymena thermophila tRNA-Tyr gene, exons 1 and 2, clone pTetY2	0.057
712	AL592159	Human DNA sequence from clone RP13-237P14 on chromosome X, complete sequence [Homo sapiens]	0.52
713	U88825	HIV-1 isolate 92NG003 from Nigeria complete genome	3.1
714	U05813	Blastocrithidia culicis ATCC 30268 kinetoplast (MURF1) and apocytochrome B (cytB) genes, partial cds, and ATPase subunit 6 (MURF4) gene, complete pre-RNA-edited DNA sequence	0.23
715	AF048990	Homo sapiens MutS homolog 5 (MSH5) gene, exons 11 and 12	0.0009
716	AF317082	Adoncholaimus thalassophygas isolate Sou39 large subunit ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.0008
717	AK013269	Mus musculus 10, 11 days embryo cDNA, RIKEN full-length enriched library, clone:2810439K08, full insert sequence	0.024
718	L14769	Physarum polycephalum cytochrome oxidase subunit 1 mRNA, complete cds; mitochondrial gene for mitochondrial product	1.6
720	U45453	Xenopus laevis transcription factor xGATA-4 mRNA, complete cds	0.61
721	AF090432	Danio rerio serrateB mRNA, complete cds	0.075
722	M62504	Spiroplasma citri fibril protein gene, complete cds	0.024
723	AK000939	Homo sapiens cDNA FLJ10077 fis, clone HEMBA1001864	0
724	XM_032587	Homo sapiens 2127 (KIAA1754), mRNA	0.22
726	AF012899	Sambucus nigra ribosome inactivating protein precursor mRNA, complete cds	0.000001
727	S82175	RAR-gamma 2.2=retinoic acid receptor gamma isoform 2.2 {alternatively spliced} [Xenopus laevis, embryos, stage 24, mRNA, 2154 nt]	0.008
728	AK002856	Mus musculus adult male kidney cDNA, RIKEN full-length enriched library, clone:0610040A09, full insert sequence	0.44
729	AF077828	Oryctolagus cuniculus indolethylamine N-methyltransferase (INMT) gene, exon 3 and complete cds	1.4
730	BC006633	Mus musculus, Flt3 interacting zinc finger protein 1, clone MGC:7201 IMAGE:3482191, mRNA, complete cds	1.3
731	AK024670	Homo sapiens cDNA: FLJ21017 fis, clone CAE05907	0.5
732	Z35823	S.cerevisiae chromosome II reading frame ORF YBL062w	1.1
733	Z48636	C.novyi gene for alpha-toxin	0.065

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
734	BC008580	Homo sapiens, clone IMAGE:4179986, mRNA, partial cds	0.71
735	L37746	Homo sapiens lamin B1 gene, exon 10	0.11
736	AF142372	Anolis roquet cytochrome b gene, partial cds; mitochondrial gene for mitochondrial product	0.95
737	AF107454	Homo sapiens clone cD622 mRNA sequence	0.48
738	XM_010112	Homo sapiens solute carrier family 6 (neurotransmitter transporter), member 14 (SLC6A14), mRNA	0.5
739	AF188067	Arabidopsis thaliana clone AtDP5 isopentenyl pyrophosphate:dimethylallyl pyrophosphate isomerase (ipiAt2) mRNA, partial cds	1.6
740	X90383	A.thaliana DNA for Y13 gene	0.034
741	AE004309	Vibrio cholerae chromosome I, section 217 of 251 of the complete chromosome	0.18
742	AF236642	Calothrix parietina clone 102-2A 16S-23S internal transcribed spacer, complete sequence; and tRNA-Ile and tRNA-Ala genes, complete sequence	1.1
744	AF107699	Homo sapiens RING3 protein (RING3) gene, partial cds	0.027
745	XM_035624	Homo sapiens KIAA0876 protein (KIAA0876), mRNA	3.4
746	XM_001795	Homo sapiens lamin B receptor (LBR), mRNA	0.15
747	AF395180	Panteliella bicolor cytochrome oxidase subunit I gene, partial cds; mitochondrial gene for mitochondrial product	0.093
748	AF262633	Homo sapiens clone NIGMS NA11418 chromosome 15 paralogous sequence variant, genomic sequence	0.27
749	AF086375	Homo sapiens full length insert cDNA clone ZD68B12	0.000003
750	AJ271002	Mus musculus TFF1/pS2 gene for Trefoil Factor1/pS2, exons 1-3	0.8
751	AF063681	Mus musculus type XIII collagen (col13a1) gene, exons 22-27	0.53
752	AL031634	Caenorhabditis elegans cosmid Y32B12C, complete sequence	0.053
753	Y00165	Sus scrofa mRNA for link protein	0.065
754	AP000693	Homo sapiens genomic DNA, chromosome 21q22.2, PCR fragment from BAC clone:KB739C11, CBR1-HLCS region	0.022
755	AK021535	Homo sapiens cDNA FLJ11473 fis, clone HEMBA1001712	0.064
756	AF305539	Mus musculus B lymphocyte induced maturation protein 1 (Prdm1) gene, exon 8 and complete cds	4E-12
757	J05493	S.pombe no message in thiamine protein (nmt1) gene, complete cds	0.55
758	AE001480	Helicobacter pylori, strain J99 section 41 of 132 of the complete genome	0.51
759	AF072685	Bos taurus matrix metalloproteinase 13 (MMP13) mRNA, complete cds	0.072
760	XM_038408	Homo sapiens hypothetical protein FLJ11331 (FLJ11331), mRNA	0.6
761	XM_041148	Homo sapiens hypothetical gene supported by AF037219 (LOC91856), mRNA	1.7
762	AF234897	Haemulon plumieri Hpl224 NADH dehydrogenase I (ND-1) gene, complete cds; mitochondrial gene for mitochondrial product	3

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
763	NM_008399	Mus musculus integrin, alpha E, epithelial-associated (Itgae), mRNA	1.4
764	Z74898	S.cerevisiae chromosome XV reading frame ORF YOL156w	1.8
765	AF280812	Glycine max putative Hslpro-1-like receptor mRNA, complete cds	0.59
766	AB013615	Broad bean wilt virus 2 genomic RNA, complete sequence of RNA1	0.68
768	AF079169	Nicotiana tabacum feedback-insensitive anthranilate synthase alpha-2 chain (ASA2) gene, promoter region and 5'UTR	5.9
769	AB014079	Homo sapiens genomic DNA, chromosome 6p21.3, HLA class I region, Cosmid clone:TY1E11, complete sequence	0.007
770	XM_012336	Homo sapiens MBIP protein (MBIP), mRNA	0.0003
771	U41509	Caenorhabditis elegans cosmid W03H1, complete sequence	0.18
772	U23478	Dictyostelium discoideum phosphatidylinositol-4,5-diphosphate 3-kinase (PIK3) mRNA, partial cds	0.00002
773	AP000380	Arabidopsis thaliana genomic DNA, chromosome 5, genomic PCR product GA469	0.39
774	AF115772	Danio rerio basic helix-loop-helix transcription factor Ndr1a (ndr1a) mRNA, complete cds	0.2
775	XM_007458	Homo sapiens butyrate response factor 1 (EGF-response factor 1) (BRF1), mRNA	0.42
776	L31955	Human (clone 1NIB-2) normalized cDNA library sequence	1.6
777	D49711	Populus kitakamiensis (P. sieboldii X P. grandidentata) homt3 gene for caffeic acid O-methyltransferase, complete cds (exon1-4)	0.046
778	L49234	Manduca sexta chitinase precursor gene, complete cds	0.05
779	AY008848	Ictalurus punctatus clone Icpu-UA/3 MHC class I antigen gene, complete cds	0.015
780	AB048375	Oserya coulteriana chloroplast matK gene for maturase K, complete cds	1.9
781	XM_010323	Homo sapiens toll-like receptor 7 (TLR7), mRNA	0.21
782	X69121	P.falciparum Pfgrp mRNA for heat shock protein	0.18
783	AE001570	Helicobacter pylori, strain J99 section 131 of 132 of the complete genome	0.05
784	M31756	Human t(9;22) chromosome 9 breakpoint DNA	0.77
785	M37889	Staphylococcus aureus replication (rep), control of replication (cop), and resistance protein (QacC) genes, complete cds	0.2
786	AF091326	Plasmodium falciparum histone deacetylase (HDAC1) mRNA, complete cds	0.19
787	Z74851	S.cerevisiae chromosome XV reading frame ORF YOL109w	0.2
788	Z85396	H.sapiens Ig lambda light chain variable region gene (34-34SWIIF32) rearranged; Ig-Light-Lambda; VLambda	0.56
789	AF075681	Hemorrhagic enteritis virus hexon protein gene, partial cds	2.1
790	AY029613	Mus musculus GTP binding protein 3 gene, complete cds; nuclear gene for mitochondrial product	5.8
791	NC_001338	Sulfolobus virus 1, complete genome	0.63

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
792	U67563	Methanococcus jannaschii section 105 of 150 of the complete genome	0.11
794	U67549	Methanococcus jannaschii section 91 of 150 of the complete genome	0.21
795	AF293450	Canis familiaris BPAG1-like gene sequence	0.53
797	XM_029942	Homo sapiens KIAA0877 protein (KIAA0877), mRNA	1.4
798	BC009775	Homo sapiens, Similar to hypothetical protein FLJ10842, clone MGC:13398 IMAGE:4092662, mRNA, complete cds	0.061
799	NM_008399	Mus musculus integrin, alpha E, epithelial-associated (Itgae), mRNA	0.24
800	NC_001733	Methanococcus jannaschii small extra-chromosomal element, complete sequence	2
801	Z98532	S.pombe chromosome I cosmid c1B1	0.66
802	AL158132	Human DNA sequence from clone RP3-323A24 on chromosome 4. Contains GSSs and a putative CpG island, complete sequence [Homo sapiens]	0.003
803	XM_007847	Homo sapiens hypothetical protein from clone 24796 (LOC57146), mRNA	5E-32
804	XM_015759	Homo sapiens hypothetical protein MGC2615 (MGC2615), mRNA	1E-48
805	XM_003799	Homo sapiens protocadherin beta 10 (PCDHB10), mRNA	0.71
806	AF098697	Mandarin mandarina from Anijima population 16S ribosomal RNA gene, mitochondrial gene encoding mitochondrial product, partial sequence	0.086
807	AE007509	Streptococcus pneumoniae section 192 of 194 of the complete genome	1.6
808	AY035064	Arabidopsis thaliana unknown protein (T20O10_100/AT3g63000) mRNA, complete cds	0.2
809	AE000595	Helicobacter pylori 26695 section 73 of 134 of the complete genome	0.046
810	Z75093	S.cerevisiae chromosome XV reading frame ORF YOR185c	0.11
811	M30825	Drosophila melanogaster ovarian tumor protein isoforms (otu) gene, complete cds, alternatively spliced	0.11
812	Y17004	Suberites domuncula mRNA for monoubiquitin	0.005
813	BC005104	Homo sapiens, Similar to RIKEN cDNA 5830420C20 gene, clone IMAGE:3633379, mRNA, partial cds	1.7
814	XM_029941	Homo sapiens cadherin-like 22 (CDH22), mRNA	0.0006
815	NM_003246	Homo sapiens thrombospondin 1 (THBS1), mRNA	0.23
816	U38414	Canis familiaris junctional sarcoplasmic reticulum protein mRNA, complete cds	0.21
817	XM_004000	Homo sapiens chromodomain helicase DNA binding protein 1 (CHD1), mRNA	0.63
818	AF006062	Cryptococcus neoformans var. grubii strain H99 urease (URE1) gene, complete cds	1.7
819	XM_018303	Homo sapiens hypothetical protein FLJ11565 (FLJ11565), mRNA	0.07

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
820	AE001164	Borrelia burgdorferi (section 50 of 70) of the complete genome	1.6
821	AF022969	Caenorhabditis elegans cosmid C29G2	0.2
822	AK021462	Homo sapiens cDNA FLJ11400 fis, clone HEMBA1000673	1.6
823	Y10908	B.cereus cysA and wapA genes	0.0003
824	U36892	Triticum aestivum clone AC29 microsatellite sequence	3.4
825	AF258615	Dictyostelium discoideum LagC protein (lagC) gene, complete cds	0.011
826	Z99763	Flaveria pringlei gdcsh gene	0.023
827	X71543	B.taurus microsatellite sequence INRA118	7E-15
828	AF349526	Arabidopsis thaliana putative 60S ribosomal protein (T6C23.18) mRNA, complete cds	1.7
829	D87001	Homo sapiens immunoglobulin lambda gene locus DNA, clone:47H9 downstream contig	0.007
830	XM_006470	Homo sapiens radixin (RDX), mRNA	2.4
831	AF191609	Homo sapiens filamin (FLNB) gene, exon 21	e-140
832	AF064754	Homo sapiens nuclear inhibitor of protein phosphatase-1 (PPP1R8) gene, exon 4	5.5
833	NC_001438	Bean golden mosaic virus A component DNA, complete sequence	0.57
834	D14567	Penicillium urticae mitochondrial l-rRNA (large rRNA) gene and its flanking region	0.23
835	AP000301	Homo sapiens genomic DNA, chromosome 21q22.1, D21S226-AML region, clone:D16B8, complete sequence	0.5
836	NM_014147	Homo sapiens HSPC047 protein (HSPC047), mRNA	1E-90
837	AF296100	Porcine teschovirus strain DS 562/91 polyprotein gene, complete cds	1.3
838	AK020740	Mus musculus adult male spinal cord cDNA, RIKEN full-length enriched library, clone:A330106M24, full insert sequence	1.6
839	XM_045585	Homo sapiens hypothetical protein FLJ11085 (KIAA1434), mRNA	3E-16
840	AF115104	Homo sapiens glutaredoxin (GLRX) gene, exon 1	1.3
841	AF094673	Mus musculus Sos1 gene, intron	3E-26
842	AK025101	Homo sapiens cDNA: FLJ21448 fis, clone COL04473	5E-93
843	M85276	Homo sapiens NKG5 gene, complete cds	0.039
844	AK022390	Homo sapiens cDNA FLJ12328 fis, clone MAMMA1002145	0.018
845	AF269767	Staphylococcus epidermidis strain SR1 clone step.1023b06 genomic sequence	0.47
846	NM_005916	Homo sapiens minichromosome maintenance deficient (S. cerevisiae) 7 (MCM7), mRNA	4.5
847	AF209976	Rattus norvegicus stromal cell-derived factor 1 (SDF-1) mRNA, complete cds	1.3
848	NM_017078	Rattus norvegicus Acetylcholine receptor alpha 5 (Chrna5), mRNA	0.95
849	AF269324	Staphylococcus epidermidis strain SR1 clone step.1002a12 genomic sequence	0.16

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
850	AK008669	Mus musculus adult male stomach cDNA, RIKEN full-length enriched library, clone:2210008F06, full insert sequence	4.3
851	XM_044217	Homo sapiens Ran binding protein 11 (LOC51194), mRNA	0.44
852	XM_011510	Homo sapiens CDC5 (cell division cycle 5, S. pombe, homolog)-like (CDC5L), mRNA	0.056
853	AF068574	Arabidopsis thaliana ferulate-5-hydroxylase (F5H) gene, complete cds	0.042
854	AE003072	Drosophila melanogaster genomic scaffold 142000013386025, complete sequence	1.4
855	AF159462	Escherichia coli EHEC factor for adherence (efa1) gene, complete cds	0.42
856	AF110797	Rattus norvegicus GABAB1 receptor (GABABR1) gene, exons 10 through 20 and alternatively spliced products, complete cds	1.6
857	AF319172	Homo sapiens cGMP-specific phosphodiesterase type 5A (PDE5A) gene, partial cds	0.6
858	U90299	Human chromosome 10 duplicated adrenoleukodystrophy (ALD) gene, 3' breakpoint sequence	0.0000003
859	AL050065	Homo sapiens mRNA; cDNA DKFZp566M043 (from clone DKFZp566M043)	0.006
860	U32802	Haemophilus influenzae Rd section 117 of 163 of the complete genome	1.4
861	AK001127	Homo sapiens cDNA FLJ10265 fis, clone HEMBB1001014	0.17
862	AB042995	Plecoglossus altivelis DNA, microsatellite, clone:Pal-3*	0.45
863	NM_004668	Homo sapiens maltase-glucoamylase (alpha-glucosidase) (MGAM), mRNA	0.001
864	NM_021697	Rattus norvegicus neuronal potassium channel alpha subunit (Kv8.1), mRNA	0.19
865	Z28173	S.cerevisiae chromosome XI reading frame ORF YKL173w	0.035
866	XM_051783	Homo sapiens hypothetical protein FLJ11712 (FLJ11712), mRNA	1.1
867	X92498	M.musculus fkh-6 gene	0.99
868	XM_041339	Homo sapiens similar to phosphodiesterase 4D interacting protein (myomegalin) (H. sapiens) (LOC91892), mRNA	1.5
869	AL590401	Human DNA sequence from clone RP11-466P12 on chromosome 6, complete sequence [Homo sapiens]	0.16
870	Z68758	Human DNA sequence from clone LL22NC03-85E10 on chromosome 22 Contais GSSs, complete sequence [Homo sapiens]	0.021
871	Z34916	O.aries DNA for natural resistance associated macrophage protein	4.6
872	NM_009253	Mus musculus serine protease inhibitor-2 related sequence 1 (Spi2-rs1), mRNA	1.5
873	AY024283	Oryza sativa microsatellite MRG6608 containing (TGTA)X6, genomic sequence	3.8
874	Z36108	S.cerevisiae chromosome II reading frame ORF YBR239c	1.6
875	XM_008791	Homo sapiens hypothetical protein (LOC51320), mRNA	0.14

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
876	X89383	R.norvegicus mRNA for SNF1-related kinase	0.18
877	XM_002378	Homo sapiens uncharacterized hypothalamus protein HT010 (HT010), mRNA	0
879	XM_047537	Homo sapiens DKFZP434C153 protein (DKFZP434C153), mRNA	0.003
880	XM_006700	Homo sapiens checkpoint with forkhead and ring finger domains (CHFR), mRNA	4E-27
881	NC_002756	Mertensiella luschani mitochondrion, complete genome	2.1
882	M90915	Human immunodeficiency virus type 1, viral sample LC01.DA11, V3 region	0.019
883	AB011534	Rattus norvegicus mRNA for MEGF8, partial cds	0.19
885	AF364468	Simian-Human immunodeficiency virus clone 201/26w 1 envelope glycoprotein (env) gene, partial cds	1.4
886	XM_005320	Homo sapiens cerberus 1 (Xenopus laevis) homolog (cysteine knot superfamily) (CER1), mRNA	0.63
887	AC079875	Homo sapiens clone CTD-2333B13, complete sequence	0.024
888	NM_032394	Mus musculus myosin VIIb (Myo7b), mRNA	6.6
889	AF209448	Borrelia hermsii plasmid cp32-like EcoRI-cut fragment #3	1.8
890	AK008242	Mus musculus adult male small intestine cDNA, RIKEN full-length enriched library, clone:2010015A19, full insert sequence	0.065
891	AF305851	Homo sapiens clone 16 ribosomal RNA intergenic spacer region, partial sequence	2
892	XM_047604	Homo sapiens coproporphyrinogen oxidase (coproporphyrin, harderoporphyrin) (CPO), mRNA	0.22
893	AF211133	Carsonella ruddii natural-host Ctenarytaina eucalypti tryptophanyl-tRNA synthetase (trpS) gene, partial cds; 16S ribosomal RNA, 23S ribosomal RNA, and 5S ribosomal RNA genes, complete sequence; transaldolase (tal) and alkyl hydroperoxide reductase smal>	0.2
894	AY047513	Drosophila melanogaster GH01880 full length cDNA	8.8
896	AL158132	Human DNA sequence from clone RP3-323A24 on chromosome 4. Contains GSSs and a putative CpG island, complete sequence [Homo sapiens]	0.0001
897	Z21978	B.napus Myr2.Bn1 gene encoding myrosinase, thioglucoside glucohydrolase	1.4
898	X95904	L.esculentum mRNA for 14-3-3 protein, TFT6	0.81
899	Z48930	C.caldarium mitochondrial genes (10kb)	0.27
900	XM_038535	Homo sapiens KIAA1074 protein (KIAA1074), mRNA	0.4
901	AF016898	Homo sapiens B-ATF gene, complete cds	0.002
902	XM_051951	Homo sapiens similar to PRO0097 protein (H. sapiens) (LOC93544), mRNA	0.003
903	X89383	R.norvegicus mRNA for SNF1-related kinase	0.23
904	AF056336	Danio rerio bone morphogenetic protein 4 precursor (BMP4) gene, complete cds	0.002
905	U34339	Protopterus aethiopicus 28S ribosomal RNA gene, partial sequence	1E-09

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
906	XM_041974	Homo sapiens hypothetical gene supported by AK025102 (LOC91974), mRNA	0.06
907	D14567	Penicillium urticae mitochondrial l-rRNA (large rRNA) gene and its flanking region	0.26
908	AL035632	Drosophila melanogaster BAC clone BACN32G11	0.52
909	AF220354	Drosophila melanogaster mitotic kinesin-like motor protein CENP-ana (cana) mRNA, complete cds	0.86
910	U67484	Methanococcus jannaschii section 26 of 150 of the complete genome	2.6
911	Y13853	Drosophila erecta clone Er1 inactive Bari-1 family transposon	0.17
912	AL137643	Homo sapiens mRNA; cDNA DKFZp586A2324 (from clone DKFZp586A2324)	1.3
913	AE006618	Streptococcus pyogenes M1 GAS strain SF370, section 147 of 167 of the complete genome	1.4
914	Z46663	M.musculus DNA for growth hormone gene and promoter	0.005
915	AF197225	Emericella nidulans TUPA (tupA) gene, complete cds	0.65
916	L20594	Human annexin III (ANX3) gene, exon 4	0.028
917	AB040730	Clostridium haemolyticum genes for 16S rRNA, tRNA-Ala, tRNA-Ile, 23S rRNA, partial and complete sequence	0.31
918	L10162	Human variable number tandem repeat (VNTR) region, allele 13R4 3' to collagen type II (COL2A1) gene	0.19
919	L35061	Bacteriophage phi-41 orfs L1-12, complete cds's, orf 13, 5' end	0.75
920	AK018618	Mus musculus adult male cecum cDNA, RIKEN full-length enriched library, clone:9130014E20, full insert sequence	0.72
921	AC024865	Caenorhabditis elegans cosmid Y74C10AL, complete sequence	0.083
922	Z65965	H.sapiens CpG island DNA genomic MseI fragment, clone 69g7, reverse read cpg69g7.rt1b	0.46
923	AF364335	Influenza A virus (A/Goose/Guangdong/3/97(H5N1)) segment 6 neuraminidase (NA) gene, complete cds	0.46
924	M83534	A.thaliana isocitrate lyase gene, 5' end	0.003
925	AE001390	Plasmodium falciparum chromosome 2, section 27 of 73 of the complete sequence	0.0001
926	AK023864	Homo sapiens cDNA FLJ13802 fis, clone THYRO1000186	0
927	XM_010575	Homo sapiens LOC87729 (LOC87729), mRNA	1.3
928	L16771	Drosophila simulans suppressor of forked (su(f)) gene sequence	0.17
931	BC001815	Homo sapiens, clone IMAGE:2989261, mRNA	2E-33
932	BC008580	Homo sapiens, clone IMAGE:4179986, mRNA, partial cds	1.4
933	D32063	Human gene for 2-oxoglutarate dehydrogenase, exon 14, 15, 16, 17, 18 and 19 sequence	0.058
934	XM_028551	Homo sapiens hypothetical gene supported by AK026706 (LOC90063), mRNA	0.003
935	M87298	Chicken neuropeptide Y gene, exons 1-3	2.1
936	AE006100	Pasteurella multocida PM70 section 67 of 204 of the complete genome	1.5
937	L77040	Homo sapiens (subclone 8 c11 from P1 H22) DNA sequence	9E-14



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
938	AF016349	Homo sapiens hexokinase I (HK1) gene, exon 1R and exon 1, alternatively spliced	2
939	BC001393	Homo sapiens, hypothetical protein, clone MGC:782 IMAGE:3051397, mRNA, complete cds	0.054
940	AK024092	Homo sapiens cDNA FLJ14030 fis, clone HEMBA1004086	0.025
941	AJ244013	Ectromelia virus proviral spi-3 gene for serine proteinase inhibitor, strain Hampstead (egg)	4.3
942	AK000184	Homo sapiens cDNA FLJ20177 fis, clone COL09966, highly similar to Y08136 H	0
943	U67528	Methanococcus jannaschii section 70 of 150 of the complete genome	0.22
944	AF065599	Schistosoma mansoni annexin mRNA, complete cds	0.64
945	AK020851	Mus musculus adult retina cDNA, RIKEN full-length enriched library, clone:A930013F10, full insert sequence	2.7
946	AF067228	Buchnera aphidicola bacterioferritin comigratory protein (bcp) gene, partial cds; chorismate synthase (aroC), ATP phosphoribosyltransferase (hisG), histidinol dehydrogenase (hisD), histidinolphosphate aminotransferase (hisC), imidazoleglycerolphosphate>	0.021
947	XM_049755	Homo sapiens hypothetical gene supported by AL137578 (LOC93193), mRNA	0.19
948	M14657	Bovine thrombomodulin mRNA, 3' end	0.004
949	AF312917	Plasmodium falciparum reticulocyte binding protein 2 homolog B gene, complete cds	4.6
950	U13067	Drosophila melanogaster Twin of m4 (Tom) gene, complete cds; and Brd gene, promoter region and 5'UTR, partial sequence	0.025
951	AL113476	Botrytis cinerea strain T4 cDNA library under conditions of nitrogen deprivation	4.1
952	XM_048492	Homo sapiens talin 1 (TLN1), mRNA	5E-50
953	M19686	Bovine interstitial retinol binding protein (IRBP) mRNA, 3' flank	0.0003
954	M69188	Cotton legumin A D-genome alloallele gene, complete cds	0.072
955	AK016519	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4932411G06, full insert sequence	0.65
956	X53545	T. cruzi mRNA for SA85-1.1 protein	0.023
957	U67557	Methanococcus jannaschii section 99 of 150 of the complete genome	0.015
958	AL136165	Human DNA sequence from clone RP5-863M11 on chromosome 6, complete sequence [Homo sapiens]	7E-12
959	AE006697	Sulfolobus solfataricus section 56 of 272 of the complete genome	2
960	AB056323	Macaca fascicularis brain cDNA, clone:QflA-10392	0.56
961	XM_015216	Homo sapiens cytochrome b5 outer mitochondrial membrane precursor (CYB5-M), mRNA	0.25
962	U88513	Flexamia pyrops NADH dehydrogenase 1 gene, mitochondrial gene encoding mitochondrial protein, complete cds	0.025
963	NM_007869	Mus musculus DnaJ-like protein 1 (Dnajl1), mRNA	1.5
964	AE002349	Chlamydia muridarum, section 76 of 85 of the complete genome	0.51

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
965	AF039714	Caenorhabditis elegans cosmid T13E5	1.8
966	AF111813	Plasmodium falciparum 1-deoxy-D-xylulose 5-phosphate reductoisomerase (dxr) gene, complete cds	1.3
967	AE000425	Escherichia coli K12 MG1655 section 315 of 400 of the complete genome	0.002
968	AF108658	Homo sapiens p5327 mRNA, complete cds	0.57
969	X82329	A.hypogaea chi2.1 gene for chitinase (class II)	3.6
970	AK026575	Homo sapiens cDNA: FLJ22922 fis, clone KAT06722	1.5
971	AB016605	Bombyx mori gene for peptidoglycan recognition protein, complete cds	0.0002
972	AB009629	Avian rotavirus RNA for VP1, complete cds	1.4
973	AK020413	Mus musculus 12 days embryo embryonic body between diaphragm region and neck cDNA, RIKEN full-length enriched library, clone:9430013L14, full insert sequence	0.095
974	AF013754	Gallus gallus transcription factor RREB-1 (rreb-1) mRNA, complete cds	3.4
975	V01390	Trypanosoma brucei kinetoplast DNA maxicircle fragment encoding two very small ribosomal RNAs, a 12S rRNA homologous to E.coli 23S rRNA and a 9S rRNA homologous to 16S rRNA	0.18
976	AL112360	Botrytis cinerea strain T4 cDNA library under conditions of nitrogen deprivation	0.22
977	AF389904	Danaus chrysippus orientis 12S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.022
979	X96999	P.vulgaris Ypr10 gene	1.5
980	AL110480	Caenorhabditis elegans cosmid Y24F12A, complete sequence	0.16
981	AJ387746	Weldenia candida chloroplast tRNA-Leu intron and trnL-F intergenic spacer	1.8
982	AE001377	Plasmodium falciparum chromosome 2, section 14 of 73 of the complete sequence	0.002
983	U26946	Gallus gallus inhibin beta A subunit mRNA, complete cds	2.1
984	AC091651	Homo sapiens clone RP11-17D6, complete sequence	2E-76
985	AF143382	Arabidopsis lyrata pistillata gene, complete cds	0.02
986	Z29969	E.histolytica plasmid genes for ribosomal RNA and hemolysins HLY1, HLY5mc1 HLY5mc2 HLY4	0.02
987	XM_001301	Homo sapiens KIAA0469 gene product (KIAA0469), mRNA	0.022
988	AB007638	Bacillus subtilis genomic DNA containing gutA to cotA region, 48 degree	0.021
989	XM_012394	Homo sapiens myosin IXA (MYO9A), mRNA	7E-09
990	AF258322	Zenaida galapagoensis beta fibrinogen gene, intron 7 and partial cds	5
991	XM_048778	Homo sapiens similar to coagulation factor VIII, procoagulant component (hemophilia A) (H. sapiens) (LOC93021), mRNA	0.73
992	AB056815	Macaca fascicularis brain cDNA clone:QfIA-15307, full insert sequence	6.4





Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1047	U55276	Rattus norvegicus microtubule-associated protein 1B gene, promoter region	0.79
1048	AF056302	Drosophila melanogaster eIF-2alpha kinase (GCN2) mRNA, complete cds	0.63
1049	NC_001322	Drosophila yakuba mitochondrion, complete genome	0.24
1050	AF097036	Oreina coerulea cytochrome oxidase subunit I gene, partial cds; mitochondrial gene for mitochondrial product	0.23
1051	L12148	Pasteurella haemolytica-like sp. pllktC, pllktB, pllktD, and leukotoxin structural protein (pllktA) genes, complete cds	0.21
1052	AB005153	Mus musculus DNA for DNA dependent protein kinase catalytic subunit, exon 5, 6, 7	0.006
1053	AF126733	Brassica oleracea var. italica floral homeotic protein pseudogene, partial sequence	2.1
1054	AF090900	Homo sapiens clone HQ0189 PRO0189 mRNA, complete cds	0.000001
1055	AJ223260	Chromodoris purpurea mitochondrial COI gene, partial	0.007
1056	AF089052	Pseudoleistes virescens cytochrome b (cytb) gene, mitochondrial gene encoding mitochondrial protein, partial cds	0.77
1057	AL138748	Human DNA sequence from clone RP4-732E19 on chromosome Xq21.1-21.33 Contains GSSs, complete sequence [Homo sapiens]	0.59
1058	AL132767	Human DNA sequence from clone RP5-819L10 on chromosome 6q12-13. Contains GSSs, complete sequence [Homo sapiens]	5
1059	AF032670	Lucilia cuprina Notch homolog (Scl) gene, exon B	0.055
1060	AE001371	Plasmodium falciparum chromosome 2, section 8 of 73 of the complete sequence	0.062
1061	AY039845	Arabidopsis thaliana At1g35160/T32G9_30 mRNA, complete cds	4.6
1062	AF365189	Sindoropsis le-testui tRNA-Leu (trnL) gene, partial intron sequence; chloroplast gene for chloroplast product	0.11
1063	U60591	Drosophila melanogaster kuzbanian (kuz) mRNA, complete cds	0.41
1064	AJ297052	Homo sapiens SDS-stable vimentin-bound DNA fragment HEF42VIM12	4E-09
1065	AB023191	Homo sapiens mRNA for KIAA0974 protein, partial cds	0.23
1066	AK021989	Homo sapiens cDNA FLJ11927 fis, clone HEMBB1000402	0.33
1067	XM_038524	Homo sapiens hypothetical protein FLJ23059 (FLJ23059), mRNA	e-169
1068	XM_045967	Homo sapiens estrogen receptor 1 (ESR1), mRNA	4.9
1069	AF354258	Homo sapiens polynucleotide kinase-3'-phosphatase (PNKP) gene, complete cds	0.66
1070	AJ404320	Posidonia oceanica medium repetitive sequence, clone pPopm6	0.038
1071	NC_002756	Mertensiella luschni mitochondrion, complete genome	4.9
1072	Z68886	Human DNA sequence from cosmid L21F12, Huntington's Disease Region, chromosome 4p16.3	2E-10
1073	AE001370	Plasmodium falciparum chromosome 2, section 7 of 73 of the complete sequence	0.025



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1107	Y14622	Mus musculus Tnfr2 gene, exon 4 to exon 8	0.71
1108	AF130049	Homo sapiens clone FLB3411 PRO0852 mRNA, complete cds	0.065
1109	AJ011009	Glycine max cytosolic glutamine synthetase (gs15) gene promoter	0.007
1110	XM_043523	Homo sapiens Rho guanine exchange factor (GEF) 11 (ARHGEF11), mRNA	0.7
1111	Z77974	H.sapiens flow-sorted chromosome 6 HindIII fragment, SC6pA5D12	0.001
1112	AJ002513	Schizosaccharomyces pombe cmb1 gene	8.2
1113	AF098878	Homo sapiens APAF1 gene, exons 6 and 7	1.9
1114	M14080	Herpesvirus saimiri thymidylate synthase gene, complete cds	0.023
1115	U44838	Glycine max extensin (SbHRGP3) gene, complete cds	0.76
1116	Y15491	Pongo pygmaeus gene encoding fertilin alpha	2.1
1117	U43145	Plasmodium chabaudi repeat organellar protein gene, complete cds	0.25
1118	Z81524	Caenorhabditis elegans cosmid F32H5, complete sequence	0.009
1119	AF052957	Homo sapiens type XV collagen (COL15A1) gene, exons 3 and 4	2.2
1120	U67523	Methanococcus jannaschii section 65 of 150 of the complete genome	0.001
1121	AL121807	S.pombe chromosome III cosmid c132	0.19
1122	X59280	S.douglasii gene for cytochrome b	0.29
1123	XM_030915	Homo sapiens KIAA0673 protein (KIAA0673), mRNA	5E-19
1124	X99254	P.falciparum gene encoding primase, small subunit	0.084
1125	AC004214	Homo sapiens clone UWGC:m32agap from 6p21, complete sequence	0.009
1126	AF061244	Agrocybe aegerita B type DNA polymerase (Mtpol) gene, complete cds; tRNA-Asn gene, complete sequence; and unknown genes, mitochondrial genes for mitochondrial products	0.001
1127	AK001125	Homo sapiens cDNA FLJ10263 fis, clone HEMBB1000991	0
1128	L41046	Pisum sativum endo-1,4-beta-glucanase (EGL1) gene, complete cds	0.0001
1129	XM_008099	Homo sapiens integrin, alpha L (antigen CD11A (p180), lymphocyte function-associated antigen 1; alpha polypeptide) (ITGAL), mRNA	2E-18
1130	AE000049	Mycoplasma pneumoniae M129 section 31 of 63 of the complete genome	0.75
1131	AY019627	Oryza sativa microsatellite MRG1952 containing (AT)X40, closest to marker L128, genomic sequence	0.024
1132	Z46383	Bovine herpesvirus type 4 DNA for nonconserved region A	4.3
1133	Y07893	S.cerevisiae DNA fragment, right arm of chromosome VII	4.2
1134	XM_040867	Homo sapiens sperm acrosome associated 1 (SPACA1), mRNA	0.003
1135	XM_038693	Homo sapiens solute carrier family 9 (sodium/hydrogen exchanger), isoform 2 (SLC9A2), mRNA	2
1136	NM_033074	Mus musculus DNA segment, Chr 15, Wayne State University 59, expressed (D15Wsu59e), mRNA	0.64

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1137	M97168	Homo sapiens X (inactive)-specific transcript (XIST) complete exon	3.4
1138	D13973	Dictyostelium discoideum DNA for Dp87 protein, complete cds	0.075
1139	AF303254	Caenorhabditis elegans gene XL153 mRNA, complete cds	2
1140	AB009926	Cyphonocerus ruficollis mitochondrial DNA for 16S rRNA, partial sequence	0.24
1141	NC_002660	Cochliomyia hominivorax mitochondrion, complete genome	0.0009
1142	AL096756	Human DNA sequence from clone RP3-477J10 on chromosome 22q13.31-13.33 Contains a GSS, complete sequence [Homo sapiens]	0.26
1143	XM_031937	Homo sapiens hypothetical protein FLJ11183 (FLJ11183), mRNA	2.2
1144	AE003025	Drosophila melanogaster genomic scaffold 142000013385389, complete sequence	0.22
1145	Z11702	V.faba mRNA for polyphenol oxidase	0.76
1146	XM_049924	Homo sapiens calcium binding protein 5 (CABP5), mRNA	5.6
1147	XM_047707	Homo sapiens KIAA1265 protein (KIAA1265), mRNA	1.6
1148	AY005256	Xylocopa erythrina cytochrome b (cytb) gene, partial cds; mitochondrial gene for mitochondrial product	0.086
1151	Z96679	H.sapiens telomeric DNA sequence, clone 7PTEL026, read 7PTELOO026.seq	9E-34
1152	AJ001677	Branchiostoma floridae mRNA for phenylalanine hydroxylase, partial	0.067
1153	J03252	Human alkaline phosphatase (ALPP) gene, complete cds	0.65
1154	AK007179	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:1700112J16, full insert sequence	0.24
1155	AK004093	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1110034K09, full insert sequence	6.7
1156	AF370142	Arabidopsis thaliana unknown protein (T5I7.1/At2g39710) mRNA, complete cds	1.7
1157	AF053649	Homo sapiens cellular apoptosis susceptibility protein (CSE1) gene, exons 15 and 16	0.006
1158	AL080199	Homo sapiens mRNA; cDNA DKFZp434E082 (from clone DKFZp434E082)	0.081
1159	AF267225	Candidatus Carsonella ruddii natural-host Tainarys sordida ATP synthase alpha subunit (atpA) gene, partial cds; ATP synthase gamma subunit (atpG) gene, complete cds; and ATP synthase beta subunit (atpD) gene, partial cds	0.15
1160	AE000654	Helicobacter pylori 26695 section 132 of 134 of the complete genome	0.51
1161	AK007179	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:1700112J16, full insert sequence	0.25
1162	NM_008787	Mus musculus pericentrin (Pcnt), mRNA	1.7
1163	AK024592	Homo sapiens cDNA: FLJ20939 fis, clone ADSE01583	0.077
1164	D13197	Mouse gene for immunoglobulin diversity region D1	0.076



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1165	AE001381	Plasmodium falciparum chromosome 2, section 18 of 73 of the complete sequence	0.073
1166	X68360	M.fascicularis gene for apolipoprotein A-II	0.0009
1167	X73032	B.juncea ribosomal intergenic spacer	0.023
1168	XM_037745	Homo sapiens hypothetical gene supported by AL137266 (LOC91332), mRNA	0.21
1169	NM_017755	Homo sapiens hypothetical protein FLJ20303 (FLJ20303), mRNA	0.58
1170	XM_045819	Homo sapiens cofilin 2 (muscle) (CFL2), mRNA	2
1171	AE006349	Lactococcus lactis subsp. lactis IL1403 section 111 of 218 of the complete genome	0.12
1172	XM_030637	Homo sapiens G protein-coupled receptor kinase 7 (GPRK7), mRNA	1.6
1173	AK017298	Mus musculus 6 days neonate head cDNA, RIKEN full-length enriched library, clone:5430411K23, full insert sequence	0.18
1174	AF154915	Homo sapiens transcription factor HOXD12 (HOXD12) and transcription factor HOXD11 (HOXD11) genes, complete cds	0.52
1175	AF143066	Lepidopilum scabrisetum ribosomal protein system 4 (rps4) gene, partial cds	0.51
1176	AL391814	Human DNA sequence from clone RP11-49A4 on chromosome 6, complete sequence [Homo sapiens]	0.06
1177	AF003511	Toxoneuron sp. 16S ribosomal RNA gene, partial sequence	0.0000001
1178	AK022350	Homo sapiens cDNA FLJ12288 fis, clone MAMMA1001783	0.00002
1180	AF307986	Mus musculus small inducible cytokine A21b (Scya21b) gene, complete cds	0.021
1181	NM_022242	Rattus norvegicus niban protein (Niban), mRNA	5
1182	Z57380	H.sapiens CpG island DNA genomic MseI fragment, clone 173c2, forward read cpg173c2.ft1a	0.13
1183	XM_043937	Homo sapiens hypothetical protein MGC13033 (MGC13033), mRNA	6.4
1184	L15439	Geukensia demissa neuropeptide mRNA, complete cds	0.24
1185	AJ251399	Proechimys cayennensis mitochondrial cytb gene for cytochrome b (specimen voucher V-815)	0.7
1186	U00053	Caenorhabditis elegans cosmid K03F8	0.62
1187	J00277	Human (genomic clones lambda-[SK2-T2, HS578T]; cDNA clones RS-[3,4, 6]) c-Ha-ras1 proto-oncogene, complete coding sequence	7E-55
1189	X70677	X.laevis XFG 5-1 mRNA for zinc finger protein	0.23
1190	AJ223323	Saccharomyces cerevisiae mitochondrial tRNA-Tyr, tRNA-Asn, & tRNA-Met genes	0.083
1191	XM_030479	Homo sapiens KIAA1462 protein (KIAA1462), mRNA	0.76
1192	AK016425	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4931403E03, full insert sequence	0.00003
1193	AF092854	Saguinus mystax visual pigment gene, P562 allele, intron 4	0.0001
1194	AC025732	Homo sapiens BAC clone RP11-116J19 from Y, complete sequence	1.7



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1221	AP001310	Arabidopsis thaliana genomic DNA, chromosome 3, P1 clone:MUO22	0.23
1222	AF092375	Rivulus gransabanae tRNA-Ile, tRNA-Gln, and tRNA-Met genes, complete sequence; NADH dehydrogenase subunit II gene, complete cds; tRNA-Trp, tRNA-Ala, tRNA-Asn, tRNA-Cys, and tRNA-Tyr genes, complete sequence; and cytochrome c oxidase subunit I gene, par>	0.26
1223	U84864	HIV-1 strain M14 from USA, envelope glycoprotein (env) gene, partial cds	0.76
1224	XM_051684	Homo sapiens similar to estrogen-related receptor alpha; estrogen receptor-like 1 (H. sapiens) (LOC93491), mRNA	0.57
1225	AF282391	Cucumis sativus clone B99 mitochondrial genomic sequence	2.2
1226	AK026459	Homo sapiens cDNA: FLJ22806 fis, clone KAI A2845	0.024
1227	AJ003131	Spodoptera littoralis nuclear polyhedrosis virus fgf, egt genes and 3 ORFs	0.022
1228	XM_028308	Homo sapiens helicase-moi (KIAA0928), mRNA	1.8
1229	AF219168	Fritillaria camtschatcensis clone cam36 retrotransposon Tfcl, partial sequence	2
1230	AF325699	Homo sapiens ataxia-telangiectasia and Rad3 related protein (ATR) gene, partial cds, alternatively spliced	0.069
1231	AE007433	Streptococcus pneumoniae section 116 of 194 of the complete genome	7.9
1232	XM_007429	Homo sapiens CGI-35 protein (LOC51077), mRNA	1E-08
1233	AF021084	Dianous nitidulus cytochrome b (cytb) gene, mitochondrial gene encoding mitochondrial protein, partial cds	0.07
1234	Z97349	Plasmodium falciparum DNA *** SEQUENCING IN PROGRESS *** from contig 3-06, complete sequence	2.1
1235	XM_038588	Homo sapiens like-glycosyltransferase (LARGE), mRNA	5.5
1236	X95276	P.falciparum complete gene map of plastid-like DNA (IR-B)	0.008
1237	U88570	Drosophila melanogaster CREB-binding protein homolog mRNA, complete cds	1.7
1238	AK024332	Homo sapiens cDNA FLJ14270 fis, clone PLACE1004491	0.68
1239	AC006678	Caenorhabditis elegans cosmid R05G9, complete sequence	1.8
1240	AF250958	Lycopersicon esculentum peptide deformylase-like protein mRNA, complete cds	0.076
1241	M26650	Human islet amyloid polypeptide (hIAPP) gene, complete cds	1.9
1242	XM_037062	Homo sapiens DKFZP564G202 protein (DKFZP564G202), mRNA	0.61
1243	AE003025	Drosophila melanogaster genomic scaffold 142000013385389, complete sequence	0.027
1244	U39701	Mycoplasma genitalium section 23 of 51 of the complete genome	2.1
1245	AE000036	Mycoplasma pneumoniae M129 section 44 of 63 of the complete genome	8.2
1246	AE000830	Methanobacterium thermoautotrophicum from bases 394245 to 404874 (section 36 of 148) of the complete genome	0.67

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1247	AL358951	Human DNA sequence from clone RP3-456L16 on chromosome 6, complete sequence [Homo sapiens]	0.64
1248	XM_045757	Homo sapiens chloride channel 4 (CLCN4), mRNA	0.56
1249	U59683	Nicotiana tabacum squalene synthase (TSS) gene, complete cds	0.005
1250	AK010434	Mus musculus ES cells cDNA, RIKEN full-length enriched library, clone:2410006O21, full insert sequence	4.9
1251	XM_045757	Homo sapiens chloride channel 4 (CLCN4), mRNA	0.61
1252	AE000717	Aquifex aeolicus section 49 of 109 of the complete genome	0.024
1253	AC024780	Caenorhabditis elegans cosmid Y43B11AR, complete sequence	0.027
1254	AF343030	Human herpesvirus 7 isolate CR18 glycoprotein H gene, complete cds	0.009
1255	AK022153	Homo sapiens cDNA FLJ12091 fis, clone HEMBB1002582	0.0000001
1256	AF309947	Dictyostelium discoideum Rac1A (rac1A) gene, complete cds; and unknown gene	0.009
1257	AB051519	Homo sapiens mRNA for KIAA1732 protein, partial cds	0.25
1258	AC006681	Caenorhabditis elegans clone R13H9, complete sequence	2.2
1260	Y11648	Campylobacter jejuni waaC, galE, wla[B,C,D,E,F,G,H,I,K,L,M], cheY genes and orf1	0.25
1261	AB009592	Oryza sativa gene for cytosolic glutathione reductase, complete cds	2.1
1262	X83997	C.parasitica eapC gene	0.22
1263	AJ404320	Posidonia oceanica medium repetitive sequence, clone pPopm6	0.034
1264	AF038620	Caenorhabditis elegans cosmid H10D12	0.063
1265	U05822	Human proto-oncogene BCL3 gene, exon 2	0.0000001
1266	Z79343	H.sapiens flow-sorted chromosome 6 TaqI fragment, SC6pA4G2	0.13
1267	S60289	LeB4=legumin {5' region} [Vicia faba, Genomic, 1222 nt]	0.0003
1268	AE006303	Lactococcus lactis subsp. lactis IL1403 section 65 of 218 of the complete genome	1.9
1269	AE001410	Plasmodium falciparum chromosome 2, section 47 of 73 of the complete sequence	0.008
1270	X96972	D.buzzatii copia element DNA	0.2
1271	AB042973	Nicotiana tabacum wizz gene, 5' flanking region, partial cds	0.073
1272	Z95309	Caenorhabditis elegans cosmid H36L18, complete sequence	3.5
1273	AF091745	Homo sapiens exonuclease I (EXO1) gene, exon 5	0.2
1274	AF386945	Arabidopsis thaliana Rubisco subunit binding-protein beta subunit (T5A14.11) mRNA, complete cds	0.7
1275	AF269376	Staphylococcus epidermidis strain SR1 clone step.1002h01 genomic sequence	0.076
1276	AK012864	Mus musculus 10, 11 days embryo cDNA, RIKEN full-length enriched library, clone:2810036I15, full insert sequence	0.028
1277	Z74204	S.cerevisiae chromosome IV reading frame ORF YDL156w	0.18
1278	AB049851	Macaca fascicularis brain cDNA, clone:QnpA-18831	2E-91
1279	AE001761	Thermotoga maritima section 73 of 136 of the complete genome	0.19
1280	AE002102	Ureaplasma urealyticum section 3 of 59 of the complete genome	5.5
1281	AK021982	Homo sapiens cDNA FLJ11920 fis, clone HEMBB1000312	0.006

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1282	AE007504	Streptococcus pneumoniae section 187 of 194 of the complete genome	0.21
1283	X79095	F.trinervia pdk gene for pyruvate,orthophosphate dikinase	0.22
1284	AE007413	Streptococcus pneumoniae section 96 of 194 of the complete genome	1.7
1285	AB050513	Macaca fascicularis brain cDNA, clone:QnpA-17049	0.41
1286	AF339809	Homo sapiens clone IMAGE:274150, mRNA sequence	0.52
1287	AF074991	Homo sapiens full length insert cDNA YH88A03	4E-09
1288	AF277581	Campostoma anomalum microsatellite CA9 sequence	1.6
1289	AF035245	Bacillus lyncceorum strain pVIL31 Bag320 satellite DNA	0.23
1291	AF298208	Dictyostelium discoideum transposon thug-T, complete sequence	0.028
1292	AL133656	Homo sapiens mRNA; cDNA DKFZp434O2017 (from clone DKFZp434O2017)	0.021
1293	AK024666	Homo sapiens cDNA: FLJ21013 fis, clone CAE05223	9E-34
1294	U55367	Caenorhabditis elegans cosmid C55H1, complete sequence	2.1
1295	X16715	D. melanogaster gene for chorion protein s16	0.25
1296	AC001080	Homo sapiens (subclone 3_g7 from PAC H74) DNA sequence, complete sequence	0.69
1297	XM_051200	Homo sapiens hypothetical protein MGC5149 (MGC5149), mRNA	0.58
1298	AE000016	Mycoplasma pneumoniae M129 section 1 of 63 of the complete genome	0.026
1299	AF264059	Homo sapiens RAPD fragment lost in a grade 2 astrocytoma	0.73
1300	AE002308	Chlamydia muridarum, section 39 of 85 of the complete genome	0.078
1301	U58745	Caenorhabditis elegans cosmid C10G6, complete sequence	0.26
1302	XM_007768	Homo sapiens KIAA1018 protein (KIAA1018), mRNA	2.2
1303	AC000102	Homo sapiens Chromosome 22q11.2 BAC Clone 60b5 In GNAZ-BCR Region, complete sequence	0.17
1304	AF338734	Homo sapiens hypothetical PHD zinc finger protein XAPI35 pseudogene, complete sequence	2.3
1305	AF211141	Carsonella ruddii natural-host Pachypsylla celtidis tryptophanyl-tRNA synthetase (trpS) gene, partial cds; 16S ribosomal RNA, 23S ribosomal RNA, and 5S ribosomal RNA genes, complete sequence; transaldolase (tal) and alkyl hydroperoxide reductase small >	0.087
1306	L81391	Homo sapiens (subclone 2_a6 from P1 H39) DNA sequence, complete sequence	0.18
1307	AB013613	Oryza sativa DNA, centromere sequence RCB11	0.085
1308	U03906	Macroscelides proboscideus aldehyde dehydrogenase I, eta-crystallin mRNA, complete cds	0.26
1309	L13470	Human thyroxine-binding globulin gene, complete cds	0.21
1310	AK026225	Homo sapiens cDNA: FLJ22572 fis, clone HSI02313	3E-27
1311	XM_030391	Homo sapiens DJ467N11.1 protein (DJ467N11.1), mRNA	0.001
1312	XM_017923	Homo sapiens hypothetical protein FLJ12660 (FLJ12660), mRNA	2E-32

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1313	M57256	B.hermisii vmp21 gene encoding Vmp21 outer membrane lipoprotein	0.58
1314	Y14051	Staphylococcus aureus mecA, mecR1, mecI genes and ORF168, ORF142, ORF44, ORF145 and ORF224	0.081
1315	XM_032018	Homo sapiens similar to RIKEN cDNA 2310040G17 gene (M. musculus) (LOC90480), mRNA	0.027
1316	AF227514	Octodon lunatus cytochrome b gene, partial cds; mitochondrial gene for mitochondrial product	1.9
1317	AE001414	Plasmodium falciparum chromosome 2, section 51 of 73 of the complete sequence	0.73
1318	Z21622	S.cerevisiae RIB7 gene encoding HTP reductase	0.77
1319	XM_040462	Homo sapiens ATP-binding cassette, sub-family D (ALD), member 3 (ABCD3), mRNA	1.8
1320	Z65229	H.sapiens CpG island DNA genomic MseI fragment, clone 28a8, forward read cpg28a8.fl1a	0.23
1321	XM_040095	Homo sapiens hypothetical protein (DKFZP434G0310), mRNA	2.3
1322	XM_027314	Homo sapiens hypothetical protein FLJ22351 (FLJ22351), mRNA	1E-14
1323	AF282064	Homo sapiens clone 2qtel_edc17iF-c17jF sequence	3E-88
1324	AF101098	Homo sapiens collagen type XI alpha-1 (COL11A1) gene, exon 38	1.3
1325	AB050093	Neoceratodus forsteri mRNA for pituitary glycoprotein hormone alpha subunit, complete cds	0.009
1326	AL591507	Human DNA sequence from clone RP11-289C14 on chromosome 6, complete sequence [Homo sapiens]	0.026
1327	AJ400873	Homo sapiens partial GPLD1 gene for glycosylphosphatidylinositol phospholipase D, exons 15-20	1.9
1328	AF378831	Mus musculus orphan G protein-coupled receptor (Raig2) mRNA, complete cds	1.9
1329	XM_030116	Homo sapiens hypothetical protein MGC3077 (MGC3077), mRNA	0
1330	X54806	R.norvegicus mRNA for cytokeratin type I (3' end)	0.77
1331	XM_013141	Homo sapiens ATPase, Cu++ transporting, alpha polypeptide (Menkes syndrome) (ATP7A), mRNA	0.72
1332	NM_026428	Mus musculus RIKEN cDNA 1810027P18 gene (1810027P18Rik), mRNA	0.019
1333	U85448	Actinidia deliciosa sucrose-phosphate synthase (KSPS-1) mRNA, partial cds	0.001
1334	AK013974	Mus musculus 13 days embryo head cDNA, RIKEN full-length enriched library, clone:3110002D09, full insert sequence	0.74
1335	U25641	Tetrahymena thermophila telomerase component p80 mRNA, complete cds	0.008
1336	NC_002102	Lactobacillus helveticus plasmid pLH1, complete sequence	0.78
1337	M14292	Human L1Heg repetitive element from the intergenic region of the epsilon and G-gamma globin genes	5E-08

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1338	AF239910	Petunia axillaris haplotype S15 self-incompatibility ribonuclease mRNA, complete cds	2.1
1339	AF116872	Candida albicans alternative oxidase (AOX2) gene, complete cds	0.25
1340	XM_035344	Homo sapiens KIAA1688 protein (KIAA1688), mRNA	1.6
1341	XM_046636	Homo sapiens hypothetical protein FLJ20080 (FLJ20080), mRNA	6E-74
1342	AF292561	Strongyloides stercoralis G protein alpha subunit 2 (gpa-2) gene, complete cds	0.76
1343	AF008597	Catharanthus roseus desacetoxyvindoline-4-hydroxylase (CRSD4H) gene, complete cds	0.26
1344	AF347671	Equine rhinitis A virus isolate PERV/62 P1 (P1) gene, partial cds	6.9
1345	U89019	Hepatitis C virus polyprotein gene, complete cds	0.27
1346	XM_043815	Homo sapiens hypothetical protein FLJ21736 (FLJ21736), mRNA	2.2
1347	L39930	Podocoryne carnea fibrillin mRNA, partial cds	0.7
1348	Z21512	K.lactis GAL80 gene encoding KIGAL80 protein	0.075
1349	AC001490	Homo sapiens (subclone 2_c10 from P1 H32) DNA sequence, complete sequence	2E-11
1350	L36891	Saccharomyces cerevisiae mitochondrion transfer RNA-fMet (tRNA-fMet) gene; transfer RNA-Pro (tRNA-Pro) gene; 9S ribosomal RNA (9S rRNA) gene	0.025
1351	AK017200	Mus musculus 11 days pregnant adult female ovary and uterus cDNA, RIKEN full-length enriched library, clone:5033428C03, full insert sequence	6.2
1352	AB003286	Homo sapiens DNA for choline kinase like protein and muscle type carnitine palmitoyltransferase I, partial and complete cds	0.069
1353	AF312917	Plasmodium falciparum reticulocyte binding protein 2 homolog B gene, complete cds	0.081
1354	M65060	M.thermoautotrophicum trpE, trpG, trpC, trpF, trpB, trpA, trpD genes, complete cds	0.26
1355	AB025642	Arabidopsis thaliana genomic DNA, chromosome 5, BAC clone:T32G24	0.34
1356	L24957	Zygosaccharomyces cidri alpha-galactosidase gene, complete cds	0.08
1357	L38437	Rattus norvegicus NADH ubiquinone oxidoreductase subunit (IP13) gene, complete cds	0.27
1358	AJ301686	Polystoma sp. DNA-25 ITS 1, isolate DNA-25	2.2
1359	AB002805	Homo sapiens OS-9 gene, 5' upstream region and partial cds	0.0004
1361	XM_030723	Homo sapiens CGI-107 protein (LOC51012), mRNA	3.1
1362	NM_031881	Mus musculus neural precursor cell expressed, developmentally down-regulated gene 4b (Nedd4b), mRNA	3.8
1363	AC008855	Homo sapiens chromosome 5 clone CTD-2178M23, complete sequence	0.72
1364	NC_002660	Cochliomyia hominivorax mitochondrion, complete genome	0.074
1365	AF072589	Python regius alpha enolase mRNA, complete cds	1.4
1366	AJ243461	Vicia faba nod-CCP1 gene, exons 1 and 2	0.017

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1367	XM_011052	Homo sapiens 28kD interferon responsive protein (IFRG28), mRNA	1.6
1368	AL390157	Homo sapiens mRNA; cDNA DKFZp434D179 (from clone DKFZp434D179)	0.0005
1369	AL023822	Caenorhabditis elegans cosmid Y102A5A, complete sequence	0.046
1370	U36918	Mesocricetus auratus mucin (MUC1) mRNA, complete cds	4.4
1371	AF081786	Homo sapiens lysyl hydroxylase 1 gene, promoter region and partial cds	0.18
1372	XM_035682	Homo sapiens similar to hypothetical protein FLJ22639 (H. sapiens) (LOC91047), mRNA	8E-08
1373	Z54645	H.sapiens CpG island DNA genomic MseI fragment, clone 14h7, reverse read cpg14h7.rt1b	0.027
1374	AB012135	Schizosaccharomyces pombe gene for catalytic subunit (C5) of proteasome, complete cds	1.9
1375	L47352	Brassica napus (clone Sta 39-4) arabinogalactan protein mRNA, complete cds	0.73
1376	AB036993	Homo sapiens RHAG gene for Rh50 glycoprotein, partial cds	0.0000001
1377	U67535	Methanococcus jannaschii section 77 of 150 of the complete genome	0.03
1378	AF203637	Myotis myotis microsatellite A2 sequence	0.017
1379	XM_004748	Homo sapiens hypothetical protein FLJ11110 (FLJ11110), mRNA	1.1
1380	AJ249744	Campylobacter jejuni cjaE gene for putative membrane protein CjaE	0.69
1381	AL591033	Human DNA sequence from clone RP11-94L3 on chromosome 6, complete sequence [Homo sapiens]	1.7
1382	AJ242625	Mus musculus Dmp-1 gene, exons 1-6	0.71
1383	AB036851	Ciona intestinalis mRNA for pellino, complete cds	0.23
1384	XM_012972	Homo sapiens transmembrane phosphatase with tensin homology (TPTE), mRNA	2E-09
1385	AF175313	Oncorhynchus mykiss cardiac sodium-calcium exchanger (NCX) mRNA, complete cds	0.47
1386	AF283669	Homo sapiens kallikrein 14 (KLK14) gene, complete cds	0.44
1387	AY018560	Oryza sativa microsatellite MRG0885 containing (AT)X18, genomic sequence	0.63
1388	AK027272	Homo sapiens cDNA FLJ14366 fis, clone HEMBA1001020	0.019
1389	XM_003052	Homo sapiens roundabout (axon guidance receptor, Drosophila) homolog 1 (ROBO1), mRNA	1E-49
1390	AF208532	Homo sapiens fatty acid omega-hydroxylase CYP4A11 (CYP4A11) gene, complete cds	0.69
1391	AF233326	Mus musculus tumor necrosis factor receptor-associated factor (Traf2) gene, exons 2, 3, and 4	0.72
1392	AE001413	Plasmodium falciparum chromosome 2, section 50 of 73 of the complete sequence	0.15
1394	X54889	Sea urchin developmentally regulated ectodermal gene	0.023



**Table 3A** Nearest Neighbor (BlastN vs. Genbank)

SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1395	AF378868	Arabidopsis thaliana AT5g11200/F2I11_90 mRNA, complete cds	2.5
1396	AF328539	Homo sapiens clone 12qtel_c64t3 sequence	0.0003
1397	AE006450	Lactococcus lactis subsp. lactis IL1403 section 212 of 218 of the complete genome	0.47
1398	Z12840	O.cuniculus mRNA for protein of unknown function	2E-97
1399	U31165	Rattus norvegicus SH3 domain binding protein (CR16) gene, exon 6	1.9
1400	Y15005	Bison bonasus mitochondrial cytB gene	1.8
1401	AC091267	Caenorhabditis elegans cosmid Y37B11A, complete sequence	3.7
1402	AB055364	Macaca fascicularis brain cDNA, clone:Qf1A-12522	e-119
1403	NC_001610	Didelphis virginiana mitochondrion, complete genome	0.006
1404	AF362372	Dictyostelium discoideum histidine kinase DhkJ (dhkJ) gene, complete cds	0.055
1405	AF027164	Homo sapiens type II integral membrane protein (NKG2-E) gene, partial cds; and type II integral membrane protein (NKG2-F) gene, complete cds	3.6
1406	M76376	Human cysteine-rich protein (CRP) gene, exon 2	0.027
1407	D31863	Mouse Pig-a gene for GPI-anchor biosynthesis (PIG-A protein), exon 6 and complete cds	0.026
1408	XM_031315	Homo sapiens hypothetical protein FLJ14033 similar to hypoxia inducible factor 3, alpha subunit (FLJ14033), mRNA	0.000007
1409	AY019369	Oryza sativa microsatellite MRG1694 containing (AT)X32, genomic sequence	0.0001
1410	AF067610	Caenorhabditis elegans cosmid F41A4	0.084
1411	AJ401391	Drosophila melanogaster mRNA for PDGF/VEGF-like protein (CG7103 gene)	0.18
1412	XM_008417	Homo sapiens hypothetical protein FLJ20694 (FLJ20694), mRNA	0.0000001
1413	AF242195	Homo sapiens KLK15 (KLK15) gene, complete cds, alternatively spliced	e-160
1414	Y14077	Bacillus subtilis 10.6 Kb chromosomal DNA: glyB-prsA region	0.008
1415	AE006802	Sulfolobus solfataricus section 161 of 272 of the complete genome	0.057
1416	AY007149	Homo sapiens clone CDABP0086 mRNA sequence	0.092
1417	K02628	Oxytricha nova (hypotrichous ciliate) ( clones LMic2-(5,6,8)) micronuclear DNA, C2 gene (version 3), complete cds	0.063
1419	X14260	Xenopus tropicalis alpha-globin gene	1.7
1420	AJ401391	Drosophila melanogaster mRNA for PDGF/VEGF-like protein (CG7103 gene)	0.15
1421	XM_032580	Homo sapiens nebulin (NEBL), mRNA	1.3
1422	XM_008060	Homo sapiens solute carrier family 7 (cationic amino acid transporter, y+ system), member 5 (SLC7A5), mRNA	2E-12
1424	AF035820	Hordeum vulgare gibberellin action negative regulator SPY mRNA, complete cds	2.1

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1425	AL353672	Human DNA sequence from clone RP1-241K1 on chromosome 6, complete sequence [Homo sapiens]	3.8
1426	AF070565	Homo sapiens clone 24425 mRNA sequence	0.2
1427	AK026914	Homo sapiens cDNA: FLJ23261 fis, clone COL05862	0.009
1428	X14735	Podospira anserina mtDNA for large subunit rRNA	0.21
1429	XM_004081	Homo sapiens aldehyde dehydrogenase 5 family, member A1 (succinate-semialdehyde dehydrogenase) (ALDH5A1), mRNA	1.4
1430	Y10687	Sulfolobus acidocaldarius gene encoding purine NTPase	0.019
1431	AF168678	Drosophila melanogaster adenylyl cyclase 78C-s mRNA, complete cds	0.13
1432	AC006666	Caenorhabditis elegans cosmid H31G24, complete sequence	0.014
1433	X02473	Calf mRNA for delta subunit of muscle acetylcholine receptor	1.1
1434	AF270148	Staphylococcus epidermidis strain SR1 clone step.1051c08 genomic sequence	0.006
1435	XM_008084	Homo sapiens hypothetical protein LOC55565 (LOC55565), mRNA	3E-36
1436	AF007876	Homo sapiens Na,K-ATPase beta 2 subunit gene, complete cds	0.008
1437	AK016592	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4933400F21, full insert sequence	0.61
1438	AB023053	Homo sapiens genomic DNA, chromosome 6p21.3, HLA class I region, clone:53L9, complete sequence	2E-10
1439	XM_035837	Homo sapiens cAMP responsive element modulator (CREM), mRNA	1.7
1440	Y12710	A.thaliana gene encoding shaggy-like kinase gamma	0.068
1441	AF351620	Homo sapiens lipocalin-1 interacting membrane receptor (LIMR) gene, complete cds	0.028
1442	U67560	Methanococcus jannaschii section 102 of 150 of the complete genome	2.1
1443	NM_002251	Homo sapiens potassium voltage-gated channel, delayed-rectifier, subfamily S, member 1 (KCNS1), mRNA	1.9
1444	XM_027341	Homo sapiens similar to retinoblastoma inhibiting gene 1 (M. musculus) (LOC89932), mRNA	0.0008
1446	AF039373	Arabidopsis thaliana ecotype RLD chromomethylase (CMT1) gene, complete cds	1.9
1447	U29397	Rattus norvegicus plasma membrane Ca2+ ATPase isoform 3 (PMCA3) gene, 5' flanking region	0.008
1448	XM_036536	Homo sapiens hypothetical protein FLJ10402 (FLJ10402), mRNA	4.1
1449	AK000677	Homo sapiens cDNA FLJ20670 fis, clone KAIA4743	1E-09
1450	AJ243538	Glomus mosseae fox2 gene for Fox2 protein	0.018
1451	AJ296103	Staphylococcus aureus repNVH99 gene for replication protein and smr gene	0.23
1452	AF084911	Bombus ternarius cytochrome b gene, partial cds; mitochondrial gene for mitochondrial product	1.4
1453	AC001080	Homo sapiens (subclone 3_g7 from PAC H74) DNA sequence, complete sequence	0.72

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1454	AF213160	Gallus gallus microsatellite C-MNT-7 sequence	0.019
1455	AB056366	Macaca fascicularis brain cDNA, clone:QfIA-14203	0.024
1456	AF129515	Paramecium tetraurelia SEC7-related protein (SEC7) mRNA, complete cds	0.055
1457	XM_037469	Homo sapiens similar to spastic ataxia of Charlevoix-Saguenay (sacin) (H. sapiens) (LOC91290), mRNA	1.8
1458	AK005404	Mus musculus adult female placenta cDNA, RIKEN full-length enriched library, clone:1600009D24, full insert sequence	4.8
1459	AE001397	Plasmodium falciparum chromosome 2, section 34 of 73 of the complete sequence	4.2
1460	AF161253	Dictyostelium discoideum protein phosphatase 4 catalytic subunit (pppC) mRNA, complete cds	0.77
1461	X74912	M.hominis lysS gene	0.19
1462	AF027148	Homo sapiens myogenic determining factor 3 (MYOD1) gene, complete cds	0.45
1463	BC003261	Mus musculus, serine/threonine kinase 5, clone MGC:5803 IMAGE:3501444, mRNA, complete cds	0.21
1464	AC079143	Homo sapiens Xp BAC RP11-346D13 (Roswell Park Cancer Institute Human BAC Library) complete sequence	2
1465	Y07829	Homo sapiens RFB30 gene for RING finger protein	4.5
1466	BC006448	Homo sapiens, clone IMAGE:3637085, mRNA	1.9
1467	X05287	Locusta migratoria mitochondrial gene for 16S rRNA	0.19
1468	XM_052063	Homo sapiens hypothetical protein DKFZp547A023 (DKFZp547A023), mRNA	0
1469	AF113952	Campylobacter jejuni multidrug-efflux transporter gene, complete cds; and unknown genes	0.066
1470	AE006680	Sulfolobus solfataricus section 39 of 272 of the complete genome	5.2
1471	AY045578	Arabidopsis thaliana AT4g37000/C7A10_360 mRNA, complete cds	2.2
1472	AF269209	Takifugu rubripes clone FTCRAV4S1 T cell receptor V alpha chain gene, partial cds	1.9
1473	XM_027952	Homo sapiens dihydrofolate reductase (DHFR), mRNA	1.3
1474	U80449	Caenorhabditis elegans cosmid R10A10	1.8
1475	X15634	C. elegans core histone genes H4(his-10) and H3(his-9)	0.025
1476	Z16938	H. sapiens (D19S218) DNA segment containing (CA) repeat; clone AFM207wc3; single read	0.02
1477	X96783	H.sapiens Syt V gene (genomic and cDNA sequence)	0.0007
1478	Y08924	P.falciparum mRNA for AARP2 protein	0.003
1479	XM_036181	Homo sapiens RAN binding protein 2-like 1 (RANBP2L1), mRNA	0.21
1480	AL390874	Human DNA sequence from clone RP11-238K16 on chromosome 9, complete sequence [Homo sapiens]	0.002
1481	AL133157	S.pombe chromosome I cosmid c1B2	0.38
1482	U67598	Methanococcus jannaschii section 140 of 150 of the complete genome	0.37

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1483	AJ242525	<i>Chlamydomonas reinhardtii</i> partial <i>dhc10</i> gene for 1 beta dynein heavy chain, exons 16-53	5.8
1484	L19842	<i>Daltonia</i> sp. mitochondrial NADH dehydrogenase, and cytochrome b genes, 3' end, and transfer RNA-Ser gene	0.001
1485	AJ239534	<i>Canis familiaris</i> tRNA-derived SINE element, clone D254UC12	0.009
1486	AF044206	<i>Homo sapiens</i> cyclooxygenase (COX-2) gene, promoter and exon 1	0.2
1487	AB035880	<i>Chaitoregma tattakana</i> mitochondrial genes for small subunit rRNA, tRNA-Val, large subunit rRNA, partial and complete sequences	0.23
1488	AE006205	<i>Pasteurella multocida</i> PM70 section 172 of 204 of the complete genome	0.26
1489	XM_011446	<i>Homo sapiens</i> hypothetical protein FLJ10775 (FLJ10775), mRNA	6E-16
1490	NM_030714	<i>Mus musculus</i> <i>deltex 3</i> homolog ( <i>Drosophila</i> ) ( <i>Dtx3</i> ), mRNA	0.39
1491	AE001407	<i>Plasmodium falciparum</i> chromosome 2, section 44 of 73 of the complete sequence	0.001
1492	BC005530	<i>Mus musculus</i> , clone IMAGE:3495762, mRNA	6.4
1493	XM_017183	<i>Homo sapiens</i> hypothetical protein FLJ22474 (FLJ22474), mRNA	0.0007
1494	AF198964	<i>Arabidopsis thaliana</i> ATP sulfurylase gene, complete cds	0.057
1495	AK026781	<i>Homo sapiens</i> cDNA: FLJ23128 fis, clone LNG08384	0.0002
1496	AF307860	<i>Homo sapiens</i> CYR61 protein (CYR61) gene, complete cds	3.9
1497	AL591667	Human DNA sequence from clone RP11-389N9 on chromosome 6, complete sequence [ <i>Homo sapiens</i> ]	0.004
1498	XM_002800	<i>Homo sapiens</i> kinesin-like protein 2 ( <i>hklp2</i> ), mRNA	2E-53
1499	M90970	<i>Atriplex nummularia</i> DNA sequence	4.8
1500	D34630	<i>Arabidopsis thaliana</i> mRNA for acetyl-CoA carboxylase, complete cds	0.22
1501	AC004498	<i>Homo sapiens</i> chromosome 5, P1 clone 1209C1 (LBNL H104), complete sequence	3E-13
1502	AF104350	<i>Dictyostelium discoideum</i> prespore-specific protein ( <i>pspC</i> ) gene, partial cds; and unknown gene	0.017
1503	XM_028059	<i>Homo sapiens</i> KIAA1681 protein (KIAA1681), mRNA	0.35
1504	U83462	<i>Mus musculus</i> serotonin N-acetyltransferase (AANAT) gene, complete cds	0.017
1505	AD001534	<i>Borrelia afzelii</i> (isolate UMO1), sequence fragment	0.7
1506	AF092379	<i>Rivulus haraldsiolii</i> tRNA-Ile, tRNA-Gln, and tRNA-Met genes, complete sequence; NADH dehydrogenase subunit II gene, complete cds; tRNA-Trp, tRNA-Ala, tRNA-Asn, tRNA-Cys, and tRNA-Tyr genes, complete sequence; and cytochrome c oxidase subunit I gene, pa>	0.002
1507	AF397158	<i>Homo sapiens</i> clone 11 pur alpha-associated ribosomal RNA gene, partial sequence	1E-39
1509	AF370352	<i>Arabidopsis thaliana</i> putative ribosomal protein (AT4g16720) mRNA, complete cds	1.2

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1510	AF286240	HIV-1 isolate 97CDKFE4 from Republic of the Congo gag protein (gag) and pol protein (pol) genes, partial cds	1.2
1511	L29256	Human dinucleotide repeat polymorphism at the DXS1690 locus	5E-50
1512	AF214115	Peromyscus maniculatus H19 mRNA, complete cds	2.1
1513	XM_003799	Homo sapiens protocadherin beta 10 (PCDHB10), mRNA	0.57
1514	AF387030	Homo sapiens DNA polymerase epsilon subunit B (POLE2) gene, exons 14 and 15	0.72
1515	M27054	Homo sapiens asparagine synthetase (TS11) gene, exons 1-3 and promoter region	0.2
1516	XM_051852	Homo sapiens mesoderm development candidate 2 (MESDC2), mRNA	5.9
1517	XM_052004	Homo sapiens heterogeneous nuclear protein similar to rat helix destabilizing protein (FBRNP), mRNA	0.00009
1518	XM_046730	Homo sapiens hypothetical gene supported by L27560 (LOC92701), mRNA	0.53
1519	AF136179	Mus musculus spermine synthase gene, partial cds	0.063
1520	U19360	Onchocerca volvulus nuclear hormone receptor-like peptide, complete cds	1.6
1521	AY039907	Arabidopsis thaliana AT5g41810/K16L22_9 mRNA, complete cds	5.9
1522	D86573	Plasmodium falciparum DNA for flavoprotein subunit of succinate dehydrogenase, complete cds	0.009
1523	NC_002548	Acute bee paralysis virus, complete genome	0.07
1524	U33959	Macaca fascicularis fertilin beta mRNA, complete cds	0.3
1525	AF270048	Staphylococcus epidermidis strain SR1 clone step.1043h07 genomic sequence	0.76
1526	AB047239	Staphylococcus aureus DNA, complete structure of cassette chromosome(SCC)-like element, strain:ATCC25923	0.72
1527	U39684	Mycoplasma genitalium section 6 of 51 of the complete genome	0.21
1528	XM_030430	Homo sapiens hypothetical protein (FLJ11127), mRNA	2
1529	D38148	Rotavirus strain A5-13 NSP1 gene, complete cds	0.68
1530	AK020846	Mus musculus adult retina cDNA, RIKEN full-length enriched library, clone:A930011E06, full insert sequence	0.2
1531	AF130049	Homo sapiens clone FLB3411 PRO0852 mRNA, complete cds	0.067
1532	AF332140	Mus musculus c-Fos (Fos) gene, 5' flanking and promoter regions	1.8
1533	AF231842	Jasminum odoratissimum tRNA-Leu (trnL) gene, partial intron and 3' exon, and trnL-trnF spacer region; chloroplast gene for chloroplast product	1.3
1534	NC_001560	Vesicular stomatitis virus, complete genome	0.35
1535	AF213897	Homo sapiens cAMP responsive element modulator (CREM) gene, exon C	0.24
1536	XM_049251	Homo sapiens KIAA0903 protein (KIAA0903), mRNA	0.22
1537	AK027713	Homo sapiens cDNA FLJ14807 fis, clone NT2RP4001760, weakly similar to PUTATIVE RHO/RAC GUANINE NUCLEOTIDE EXCHANGE FACTOR	1E-36

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1538	AF268091	Chloris gayana phosphoenolpyruvate carboxylase (ppc) mRNA, complete cds	6.1
1539	AC023351	Homo sapiens clone RP11-637J20, complete sequence	1E-49
1540	NC_002161	Bovine parainfluenza virus 3, complete genome	6.4
1541	AE001092	Archaeoglobus fulgidus section 15 of 172 of the complete genome	0.15
1542	AF044202	Drosophila melanogaster glutamate receptor DGluRIIB mRNA, complete cds	0.008
1543	Z72767	S.cerevisiae chromosome VII reading frame ORF YGL245w	1.8
1544	AJ277899	Nicotiana tabacum drepp4 gene, exons 1-4	0.24
1545	XM_005131	Homo sapiens chromatin accessibility complex 1 (CHRAC1), mRNA	0.71
1546	AF270048	Staphylococcus epidermidis strain SR1 clone step.1043h07 genomic sequence	0.67
1547	AL112743	Botrytis cinerea strain T4 cDNA library under conditions of nitrogen deprivation	0.076
1548	S68847	YAP2=AP-1-like stress-induced transcriptional activator [Saccharomyces cerevisiae, W303, Genomic, 2181 nt]	0.21
1549	AF176634	Reldia sp. Amaya and Smith 578 NADH dehydrogenase subunit F (ndhF) gene, partial cds; chloroplast gene for chloroplast product	0.54
1551	X79988	H.sapiens HIP gene, exon 1	0.21
1552	AK015054	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930402M22, full insert sequence	2.2
1553	U07731	Human quinone oxidoreductase2 (NQO2) gene, introns 1 and 2 and exon 2	0.42
1554	AE001370	Plasmodium falciparum chromosome 2, section 7 of 73 of the complete sequence	0.02
1555	AF222996	Danio rerio noca-like Zn-finger protein (nlz) mRNA, complete cds	0.59
1556	AJ000080	Trypanosoma brucei hsp100 and gpi-plc genes	0.00004
1557	D30745	Xenopus laevis MRP RNA gene	5
1558	X17256	Yeast THR4 gene for threonine synthase (EC 4.2.99.2)	0.64
1559	AF203318	HIV-1 clone LTNP1-85V3 from USA envelope glycoprotein V3 region (env) gene, partial cds	1.1
1561	XM_027574	Homo sapiens dystrophia myotonica-protein kinase (DMPK), mRNA	1.8
1562	BC006953	Mus musculus, clone MGC:6936 IMAGE:2811899, mRNA, complete cds	2.2
1563	L31848	Homo sapiens serine/threonine kinase receptor 2 (SKR2) gene, 3 alternative splices, 3' ends	2E-10
1564	AF309471	Homo sapiens SOX6 (SOX6) gene, exon 10	0.026
1565	K02782	Mouse complement component C3 mRNA, alpha and beta subunits, complete cds	1
1567	XM_003204	Homo sapiens leucine rich repeat (in FLII) interacting protein 2 (LRRFIP2), mRNA	0.94

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1568	Z29373	H.sapiens gene for neural cell adhesion molecule L1	0.85
1569	AF138876	Bacillus thuringiensis isolate M15 insertion sequence IS231N	0.48
1570	AF043087	Hordeum vulgare dehydrin 1 (dhn1) gene, complete cds	2.1
1571	AE002293	Chlamydia muridarum, section 25 of 85 of the complete genome	0.57
1572	AB017043	Rattus norvegicus gene for hepatocyte nuclear factor 3 gamma, partial cds	3.7
1573	XM_038951	Homo sapiens hypothetical protein MGC15875 (MGC15875), mRNA	0.43
1574	AF244979	Mus musculus galectin-11 mRNA, variant b, complete cds, alternatively spliced	0.24
1575	XM_006069	Homo sapiens wee1+ (S. pombe) homolog (WEE1), mRNA	6E-10
1576	AK025037	Homo sapiens cDNA: FLJ21384 fis, clone COL03354	1.7
1577	Z71443	S.cerevisiae chromosome XIV reading frame ORF YNL167c	0.014
1578	AF263518	Arabidopsis thaliana protein synthesis initiation factor 4G (EIF4G) gene, complete cds	0.59
1579	AE000680	Aquifex aeolicus section 12 of 109 of the complete genome	1.2
1580	AE001404	Plasmodium falciparum chromosome 2, section 41 of 73 of the complete sequence	1.5
1581	AJ390510	Candida albicans partial mRNA for serine/threonine kinase (sha3 gene)	0.18
1582	AC004173	Homo sapiens clone UWGC:y23x011 from 6p21, complete sequence	0.002
1583	Z71687	S.cerevisiae chromosome XIV reading frame ORF YNR072w	2.1
1585	X95065	H.sapiens dinucleotide repeat (GT) from chromosome 13q (229bp)	0.18
1586	Z24310	H. sapiens (D10S593) DNA segment containing (CA) repeat; clone AFM311yb1; single read	0.002
1587	Y18476	Trichophyton rubrum mitochondrial cytb gene and NADH1 to NADH5 genes	6.9
1588	Z47046	Human cosmid QLL2C9 from Xq28	0.00007
1589	Z71687	S.cerevisiae chromosome XIV reading frame ORF YNR072w	1.6
1590	XM_005485	Homo sapiens KIAA0414 protein (KIAA0414), mRNA	0.002
1591	NM_024364	Rattus norvegicus hairless (hr), mRNA	0.22
1593	AF136150	Caenorhabditis elegans homogentisate 1,2-dioxygenase (hgo) gene, complete cds	1.6
1594	XM_033896	Homo sapiens insulin-like growth factor 2 receptor (IGF2R), mRNA	1.4
1595	AJ404228	Saccharomyces douglasii mitochondrial tRNA gene cluster	0.008
1596	BC007460	Homo sapiens, acid phosphatase, prostate, clone MGC:12236 IMAGE:3951204, mRNA, complete cds	0.029
1597	NM_024201	Mus musculus RIKEN cDNA 0610011N22 gene (0610011N22Rik), mRNA	5.3
1598	U88166	Caenorhabditis elegans cosmid M01A12	0.61
1599	AE001394	Plasmodium falciparum chromosome 2, section 31 of 73 of the complete sequence	2

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1600	AJ306417	Corynebacterium glutamicum partial nrdF gene for ribonucleotide reductase beta-subunit and ctaD gene for cytochrome aa3 oxidase subunit I	1.9
1601	AF287270	Homo sapiens mucolipin (MCOLN1) gene, complete cds	6
1602	AE002207	Chlamydophila pneumoniae AR39, section 37 of 94 of the complete genome	0.083
1603	AK003449	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1110004P21, full insert sequence	0.2
1604	AB008103	Arabidopsis thaliana AtERF-1 mRNA for ethylene responsive element binding factor 1, complete cds	0.79
1605	AE006406	Lactococcus lactis subsp. lactis IL1403 section 168 of 218 of the complete genome	0.18
1606	BC008122	Homo sapiens, clone MGC:18053 IMAGE:4148889, mRNA, complete cds	1.5
1607	D28598	Chicken mRNA for c-maf proto-oncogene product c-Maf long form, complete cds	0.44
1608	X97314	M.sativa mRNA for cdc2 kinase homologue, cdc2MsC	1.5
1609	AP001407	Homo sapiens genomic DNA, chromosome 21q22.2, clone:10C6, LB7T-ERG region, complete sequence	1.1
1611	XM_017891	Homo sapiens similar to heterogeneous nuclear ribonucleoprotein L (H. sapiens) (LOC91538), mRNA	1.4
1612	U48562	Corrigiola littoralis ORF2280 gene homolog, chloroplast gene encoding chloroplast protein, partial cds	0.074
1613	XM_036274	Homo sapiens similar to tumor protein p53-binding protein (H. sapiens) (LOC65591), mRNA	2
1614	AJ271039	Plasmodium yoelii yoelii partial mrk gene for MO15-related kinase	0.001
1615	AB016467	Datisca cannabina chloroplast gene for maturase K, partial cds	0.25
1616	AF027807	Homo sapiens beta-casein (CSN2) gene, complete cds	0.074
1617	AK002822	Mus musculus adult male kidney cDNA, RIKEN full-length enriched library, clone:0610039A20, full insert sequence	0.55
1618	U67580	Methanococcus jannaschii section 122 of 150 of the complete genome	0.032
1619	U89140	Mus musculus aldose reductase gene, promoter region and exon 1	0.48
1620	AE002799	Drosophila melanogaster genomic scaffold 142000013385566, complete sequence	0.17
1621	L14855	Bos taurus neurexin I-alpha mRNA, complete cds	0.48
1622	AF379854	Cloning vector pVLH/hsp, complete sequence	2
1623	Z11883	S.tuberosum U1snRNA variant genes U1-1, U1-2, U1-3, U1-4, U1-5 and U1-6	0.54
1624	AJ294727	Mus musculus ILTIFa gene for IL-TIF alpha protein (IL-22), exons 1a-5	0.011
1625	XM_043073	Homo sapiens hypothetical protein DKFZp434A1319 (DKFZP434A1319), mRNA	1.9



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1626	M84732	Plasmodium yoelii sporozoite surface protein 2 gene , complete cds	0.007
1627	M83304	G.hirsutum late embryogenesis-abundant protein 2-D (LeaA2-D) mRNA, complete cds	9.8
1628	U32725	Haemophilus influenzae Rd section 40 of 163 of the complete genome	0.14
1629	AF185589	Homo sapiens cytochrome P450 3A4 (CYP3A4) gene, promoter region	0.027
1630	AL591667	Human DNA sequence from clone RP11-389N9 on chromosome 6, complete sequence [Homo sapiens]	0.15
1631	AB058397	Oryza sativa CHS gene for chalcone synthase, complete cds	0.16
1632	M11043	Mouse DNA fragment that hybridizes to HSV-1 SmaI A fragment	1.5
1633	AF145699	Staphylococcus aureus putative membrane protein MprF (mprF) gene, complete cds; and unknown gene	1.5
1634	AF088902	Mus musculus SLIT1 protein (Slit1) mRNA, partial cds	0.5
1635	AB048882	Macaca fascicularis brain cDNA, clone:QnpA-16525	0.21
1636	X98369	M.musculus mRNA for SOX15 protein	0.24
1637	AF131767	Homo sapiens clone 24900 mRNA sequence	0.25
1638	AL117657	Homo sapiens mRNA; cDNA DKFZp586F1924 (from clone DKFZp586F1924)	1.9
1639	AB042973	Nicotiana tabacum wizz gene, 5' flanking region, partial cds	0.072
1640	AJ272083	Staphylococcus aureus empbp gene for extracellular matrix and plasma binding protein, strain SA 113	0.008
1641	BC009423	Homo sapiens, clone MGC:15151 IMAGE:3538202, mRNA, complete cds	1.9
1642	AF114905	Saccharomyces sp. CID1 ATP synthase subunit 8 (ATP8) gene, mitochondrial gene encoding mitochondrial protein, complete cds	0.18
1643	AF270417	Staphylococcus epidermidis strain SR1 clone step.4052d03a genomic sequence	0.063
1644	X91340	G.hybrida chs-like gene	0.51
1645	AF097026	Homo sapiens autosomal highly conserved protein (AHCP) gene, complete cds	0.008
1646	XM_028810	Homo sapiens 67292 (KIAA1755), mRNA	5.5
1647	AL049339	Homo sapiens mRNA; cDNA DKFZp564P046 (from clone DKFZp564P046)	2.1
1648	AE001398	Plasmodium falciparum chromosome 2, section 35 of 73 of the complete sequence	0.13
1649	M55171	Mouse opsin (MOPS) gene, complete cds	0.52
1650	AB008103	Arabidopsis thaliana AtERF-1 mRNA for ethylene responsive element binding factor 1, complete cds	0.66
1651	AL589705	Human DNA sequence from clone RP11-64M7 on chromosome 6, complete sequence [Homo sapiens]	0.5
1652	X79559	T.trypanoides (R1) 18S rRNA gene	0.069
1653	XM_048416	Homo sapiens PRO0478 protein (PRO0478), mRNA	0.0001

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1654	AF082761	Dasyurus maculatus isolate QM.E1 mitochondrial D-loop, partial sequence	0.063
1655	AF282568	Homo sapiens clone 20ptel c15bt7 sequence	4E-39
1656	AB027617	Pyrus pyrifolia gene for UDP-glucose pyrophosphorylase, complete cds	0.19
1657	AK023864	Homo sapiens cDNA FLJ13802 fis, clone THYRO1000186	0.2
1658	NM_009905	Mus musculus CDC-like kinase (Clk), mRNA	1.7
1659	AL023846	Caenorhabditis elegans cosmid Y52B11C, complete sequence	2.3
1660	AF334780	Homo sapiens pregnancy-induced growth inhibitor OKL38 gene, partial cds	0.73
1661	XM_042066	Homo sapiens mitogen-activated protein kinase kinase kinase 1 (MAP3K1), mRNA	1.9
1662	XM_034872	Homo sapiens KIAA0202 protein (KIAA0202), mRNA	0.23
1663	AC002252	Homo sapiens (subclone 1_g7 from BAC H76) DNA sequence, complete sequence	3E-14
1664	AK023113	Homo sapiens cDNA FLJ13051 fis, clone NT2RP3001447	2E-20
1665	BC003552	Homo sapiens, calnexin, clone MGC:1196 IMAGE:3546389, mRNA, complete cds	0.076
1666	AF097142	Tapinaspis sp. 12S small subunit ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	1.5
1667	AL117103	Botrytis cinerea strain T4 cDNA library under conditions of nitrogen deprivation	6.1
1668	NM_013825	Mus musculus lymphocyte antigen 75 (Ly75), mRNA	0.74
1669	NM_007043	Homo sapiens HIV-1 rev binding protein 2 (HRB2), mRNA	7E-22
1670	Z27359	G.hirsutum (AD52 ) copia-like reverse transcriptase fragments	0.24
1671	AK021535	Homo sapiens cDNA FLJ11473 fis, clone HEMBA1001712	0.25
1672	Y00145	Dictyostelium discoideum UDP glucose pyrophosphorylase gene (UDPGP; EC 2.7.7.9)	0.22
1673	M63291	Drosophila silvestris alcohol dehydrogenase gene, complete cds	0.028
1674	AF100401	Influenza B virus B/Guangdong/5/94 segment 8 nonstructural protein (NS1) and nonstructural protein (NS2) genes, complete cds	0.2
1675	U80449	Caenorhabditis elegans cosmid R10A10	1.6
1676	X15634	C. elegans core histone genes H4(his-10) and H3(his-9)	0.022
1677	XM_050366	Homo sapiens zinc finger protein, X-linked (ZFX), mRNA	0.23
1678	AE007046	Mycobacterium tuberculosis CDC1551, section 132 of 280 of the complete genome	0.062
1679	XM_008207	Homo sapiens glucose-6-phosphatase, catalytic (glycogen storage disease type I, von Gierke disease) (G6PC), mRNA	4E-18
1680	AB049118	Hemicentrotus pulcherrimus mRNA for transcription factor HpLim1, complete cds	0.21
1681	XM_002421	Homo sapiens hypothetical protein FLJ20254 (FLJ20254), mRNA	4.1
1682	X96783	H.sapiens Syt V gene (genomic and cDNA sequence)	0.000004

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1683	U79732	Plasmodium berghei extrachromosomal plastid PB-2, tRNA-Pro, tRNA-Glu, tRNA-Lys, tRNA-Asp, tRNA-Ser, tRNA-Tyr, tRNA-Met, tRNA-Leu, tRNA-Cys, and tRNA-His genes, complete sequence, rps4 gene, complete cds, tRNA-Thr gene, complete sequence, and large subu>	0.001
1684	NC_002619	Pteropus scapulatus mitochondrion, complete genome	6.3
1685	L16679	Caenorhabditis elegans cosmid K07D8, complete sequence	1.8
1686	Y08924	P.falciparum mRNA for AARP2 protein	0.003
1687	U32760	Haemophilus influenzae Rd section 75 of 163 of the complete genome	2.2
1688	AF298624	Dictyostelium discoideum chromosome 2 repeat region	0.009
1689	XM_031155	Homo sapiens RAS protein activator like 2 (RASAL2), mRNA	0.33
1690	AE006899	Sulfolobus solfataricus section 258 of 272 of the complete genome	5
1691	U67556	Methanococcus jannaschii section 98 of 150 of the complete genome	0.42
1692	AK012631	Mus musculus 10, 11 days embryo cDNA, RIKEN full-length enriched library, clone:2810001G20, full insert sequence	0.064
1693	BC007399	Homo sapiens, clone MGC:16308 IMAGE:3836116, mRNA, complete cds	0.022
1694	AL389897	Human DNA sequence from clone RP11-110C10 on chromosome 20. Contains GSSs, complete sequence [Homo sapiens]	1E-26
1695	Z62421	H.sapiens CpG island DNA genomic MseI fragment, clone 68h2, forward read cpg68h2.fl1a	4E-70
1696	BC010535	Homo sapiens, clone IMAGE:3456494, mRNA	0.002
1697	Z68319	Caenorhabditis elegans cosmid T23G7, complete sequence	0.18
1698	U48363	Mus musculus transcriptional activator alpha-NAC (Naca) gene, complete cds	0.058
1699	AF135430	Ustilago nuda 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene and internal transcribed spacer 2, complete sequence; and 28S ribosomal RNA gene, partial sequence	1.4
1701	XM_007461	Homo sapiens similar to enhancer of rudimentary (Drosophila) homolog (H. sapiens) (LOC65719), mRNA	0.18
1702	NM_025083	Homo sapiens hypothetical protein FLJ21128 (FLJ21128), mRNA	e-124
1703	XM_050592	Homo sapiens uncharacterized hematopoietic stem/progenitor cells protein MDS032 (MDS032), mRNA	0.068
1704	AF277167	Homo sapiens Makorin RING zinc-finger protein 2 (MKRN2) gene, exon 4	2
1705	AE001433	Plasmodium falciparum chromosome 2, section 70 of 73 of the complete sequence	0.67
1706	AF075003	Homo sapiens full length insert cDNA YH97B03	0.001
1707	NM_011378	Mus musculus transcriptional regulator, SIN3A (yeast) (Sin3a), mRNA	0.62

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1708	AE001321	Chlamydia trachomatis section 48 of 87 of the complete genome	0.026
1709	XM_046388	Homo sapiens similar to elongation of very long chain fatty acids (FEN1/Elo2, SUR4/Elo3, yeast)-like 1 (H. sapiens) (LOC92652), mRNA	6.1
1710	S55685	MOR6.5=ouabain resistance gene {repeat sequence} [mice, Genomic, 6395 nt]	5.7
1711	AB055378	Macaca fascicularis brain cDNA, clone:QfIA-13294	0.22
1712	XM_043597	Homo sapiens centaurin-alpha 2 protein (HSA272195), mRNA	1E-20
1713	AE007426	Streptococcus pneumoniae section 109 of 194 of the complete genome	0.32
1714	AK016519	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4932411G06, full insert sequence	e-129
1715	AL122033	S.pombe chromosome II cosmid c1921	0.53
1716	AK012960	Mus musculus 10, 11 days embryo cDNA, RIKEN full-length enriched library, clone:2810401G03, full insert sequence	0.075
1717	AL590123	Human DNA sequence from clone RP11-473J14 on chromosome X, complete sequence [Homo sapiens]	0.19
1718	D17343	Rattus norvegicus cytochrome P450 2B15 gene, exon 1	0.66
1719	XM_028703	Homo sapiens KIAA0889 protein (KIAA0889), mRNA	0.00004
1720	AB060865	Macaca fascicularis brain cDNA clone:QtrA-11953, full insert sequence	2.3
1721	AL133397	Human DNA sequence from clone RP1-213J1p on chromosome 22q11.21-12.2, complete sequence [Homo sapiens]	0.083
1722	X58913	Mitochondrion Drosophila eugracilis ND2 and COI genes (partial) and genes for tRNA-Trp, tRNA-Tyr, and tRNA-Cys	0.074
1723	AC002359	Homo sapiens Xp22 Cosmid U239B3 (from Lawrence Livermore X library) complete sequence	0.0008
1724	AE006322	Lactococcus lactis subsp. lactis IL1403 section 84 of 218 of the complete genome	1.8
1725	Z71290	S.cerevisiae chromosome XIV reading frame ORF YNL014w	0.67
1726	XM_005723	Homo sapiens hypothetical protein PRO2859 (PRO2859), mRNA	0.014
1727	AF123488	South River virus polyprotein mRNA, complete cds	0.57
1728	D78176	Mouse DNA for primary transcript of atrial natriuretic clearance receptor	0.061
1730	XM_006871	Homo sapiens ethanolamine kinase (EKI1), mRNA	4.1
1731	AL078640	Human DNA sequence from clone 536P6 on chromosome 22. Contains an EST, complete sequence [Homo sapiens]	0.07
1732	AC092030	Homo sapiens clone RP11-636I12, complete sequence	0.029
1733	AK003349	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1110003F05, full insert sequence	0.16
1734	AF131767	Homo sapiens clone 24900 mRNA sequence	0.2
1735	Z74246	S.cerevisiae chromosome IV reading frame ORF YDL198c	0.023
1736	NM_021401	Mus musculus secreted and transmembrane 1 (Sectm1), mRNA	0.069
1737	AF213931	Buchnera aphidicola DNA polymerase III beta subunit (dnaN) gene, complete cds	0.68

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1738	AF288892	Homo sapiens clone 20r DH4-17/BCL-1 gene fusion reciprocal breakpoint sequence	2
1739	X99719	S.enterica hsdM, hsdS & hsdR genes	0.23
1740	XM_041866	Homo sapiens KIAA1468 protein (KIAA1468), mRNA	5.9
1741	AY010113	Homo sapiens unknown mRNA sequence	0.64
1742	AK009187	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2310006I24, full insert sequence	4E-23
1743	AF130074	Homo sapiens clone FLB9348 PRO2523 mRNA, complete cds	0.14
1744	AJ249165	Plasmodium falciparum gc-beta gene, exons 1-13	0.002
1745	AK014565	Mus musculus 0 day neonate skin cDNA, RIKEN full-length enriched library, clone:4632411B12, full insert sequence	0.54
1746	M15058	Vaccinia virus (strain WR) HindIII D fragment DNA, complete	0.15
1747	Z16416	M.pulmonis DNA for insertion sequence IS1138 encoding putative transposase	0.026
1748	XM_047638	Homo sapiens Fzr1 protein (FZR1), mRNA	1.2
1750	U21853	Anabaena sp. phycobilisome core component (apcF) gene, complete cds, and glutamine synthetase (glnA) gene, partial cds	0.076
1751	AF169454	Neisseria meningitidis strain Z2491 clone Cm045 unknown sequence	0.19
1752	AF102750	Apanteles canarsiae 16S large subunit ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.066
1753	AF034389	Plasmodium falciparum sexual stage antigen (s16) gene, promoter and partial cds	0.18
1754	AB047239	Staphylococcus aureus DNA, complete structure of cassette chromosome(SCC)-like element, strain:ATCC25923	1.5
1755	X98669	A.thaliana zat1 gene	0.023
1756	X16619	Chlamydomonas reinhardtii ARG7 gene for argininosuccinate lyase	1.5
1757	XM_005488	Homo sapiens KIAA0354 gene product (KIAA0354), mRNA	0.063
1758	AF110966	HIV-1 isolate C-96BW04.10 country Botswana, complete genome	1.1
1759	AF247193	Mus musculus endobrevin (Vamp8) gene, exon 1	5.4
1760	XM_045302	Homo sapiens proteasome (prosome, macropain) 26S subunit, non-ATPase, 5 (PSMD5), mRNA	0.0008
1761	AE006350	Lactococcus lactis subsp. lactis IL1403 section 112 of 218 of the complete genome	0.69
1762	AJ247001	Anguilla anguilla mitochondrial DNA for partial tRNA-Thr and tRNA-Pro genes and D-loop, isolate RM11	0.052
1763	AB024996	Cicer arietinum mRNA for rac-type small GTP-binding protein, complete cds	1.6
1764	M13945	Mus musculus pim-1 protein kinase gene, complete cds	5.7
1765	AF106842	Platanus racemosa PlaraLFY protein (PlaraLFY) gene, complete cds	0.22
1766	AF269822	Staphylococcus epidermidis strain SR1 clone step.1024f03 genomic sequence	7.5
1767	AF256830	Salmo salar clone BHMS549 microsatellite sequence	1.8

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1768	AE007395	Streptococcus pneumoniae section 78 of 194 of the complete genome	1.6
1769	AB028896	Streptococcus agalactiae type-specific capsular polysaccharide biosynthesis gene region (cpsIaA to ung gene), complete cds	0.025
1770	AL583831	Human DNA sequence from clone RP11-469L10 on chromosome 6, complete sequence [Homo sapiens]	0.15
1771	AL354683	Human DNA sequence from clone RP11-259K11 on chromosome 20, complete sequence [Homo sapiens]	0.21
1772	XM_047524	Homo sapiens procollagen (type III) N-endopeptidase (PCOLN3), mRNA	4.6
1773	AC084500	Caenorhabditis briggsae cosmid G13G15, complete sequence	0.076
1774	M13945	Mus musculus pim-1 protein kinase gene, complete cds	6.1
1775	L27474	Human arginase (ARG1) gene dinucleotide repeat polymorphism, intron 5	0.21
1776	Z79696	Caenorhabditis elegans cosmid F54F3, complete sequence	1.9
1777	AY018282	Oryza sativa microsatellite MRG0607 containing (AT)X14, closest to marker C132, genomic sequence	0.071
1778	AF114938	Saccharomyces sp. IFO 1815 small subunit ribosomal RNA gene, mitochondrial gene for mitochondrial RNA, complete sequence	0.078
1779	AF170085	Homo sapiens Charcot-Leyden crystal protein gene, partial sequence	6E-18
1780	Y08919	P.flesus mRNA for p53 protein	0.082
1781	L46868	Trypanosoma brucei dominant expression site (DES) gene, promoter region	2.2
1782	AF157008	Prunus dulcis self-incompatibility associated ribonuclease gene, complete cds	0.44
1783	AB017459	Carabus sylvestris mitochondrial ND5 gene, isolate: Baumgartner Austria, partial cds	0.029
1784	AJ294714	Pichia anomala leu2 gene for beta-isopropylmalate dehydrogenase	0.26
1785	AF125972	Caenorhabditis elegans cosmid H25P19	0.64
1786	AB015413	Helicobacter pylori cagA gene, complete cds, strain ATCC43526	1.5
1787	AK021477	Homo sapiens cDNA FLJ11415 fis, clone HEMBA1000942	7E-12
1788	AC006812	Caenorhabditis elegans cosmid Y64H9A, complete sequence	0.63
1789	XM_004181	Homo sapiens megakaryocyte-enhanced gene transcript 1 protein (MEGT1), mRNA	7E-66
1790	AJ236640	Homo sapiens chromosome 22 CpG island DNA, genomic MseI fragment, clone 22CGIB49A20, complete read	9E-19
1791	XM_041751	Homo sapiens discoidin domain receptor family, member 1 (DDR1), mRNA	3.5
1792	AL034546	Human DNA sequence from clone RP5-898I4 on chromosome 22q13.33 Contains a GSS and a putative CpG island, complete sequence [Homo sapiens]	0.000005
1793	AJ006873	Buchnera aphidicola plasmid pBUs1, repA2 gene, leuA gene and ORF1	0.23

155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665
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Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1794	X79779	S.tuberosum KST1 mRNA	0.67
1795	AF371373	Cricetulus griseus hypothetical protein A1-3 mRNA, complete cds	0.61
1796	AF165082	Pollachius virens cytochrome b gene, partial cds; mitochondrial gene for mitochondrial product	0.53
1797	AE007418	Streptococcus pneumoniae section 101 of 194 of the complete genome	0.027
1798	X67082	H.sapiens AMBP gene transcription regulatory region	0.006
1799	AL117655	Homo sapiens mRNA; cDNA DKFZp586E2024 (from clone DKFZp586E2024)	5.2
1800	AB048972	Macaca fascicularis brain cDNA, clone:QnpA-12040	0.53
1801	XM_030865	Homo sapiens M-phase phosphoprotein 10 (U3 small nucleolar ribonucleoprotein) (MPHOSPH10), mRNA	0.18
1802	AF123488	South River virus polyprotein mRNA, complete cds	0.49
1803	AB027590	Pachliopta aristolochiae mitochondrial mRNA for NADH dehydrogenase subunit 5, partial cds	0.024
1804	J00889	Chicken cellular myc proto-oncogene, complete cds	0.008
1805	XM_030024	Homo sapiens similar to protein kinase C binding protein 1 (H. sapiens) (LOC90218), mRNA	0.009
1806	AB023486	Homo sapiens gene for histamine H2 receptor, promoter region and complete cds	0.064
1807	D21196	Dictyostelium discoideum mitochondrial DNA	0.21
1808	AY035029	Arabidopsis thaliana putative dihydroorotate dehydrogenase (MEB5.3/AT3g17810) mRNA, complete cds	5.3
1809	AB047389	Clostridium difficile purL gene for formylglycinamide ribonucleotide synthetase (FGAM synthetase), complete cds	0.019
1810	AK012033	Mus musculus 10 days embryo cDNA, RIKEN full-length enriched library, clone:2610315E15, full insert sequence	2.2
1811	AF044202	Drosophila melanogaster glutamate receptor DGluRIIB mRNA, complete cds	0.008
1812	AK026967	Homo sapiens cDNA: FLJ23314 fis, clone HEP11989	0.66
1813	AB050432	Macaca fascicularis brain cDNA, clone:QnpA-21861	0.4
1814	X16871	Human DNA for elongation factor 1-alpha (clone lambda-4)	4.7
1815	AE000001	Mycoplasma pneumoniae M129 section 16 of 63 of the complete genome	1.9
1816	AK002671	Mus musculus adult male kidney cDNA, RIKEN full-length enriched library, clone:0610025N14, full insert sequence	0.052
1817	AF202903	Sporopachydermia cereana var. D77-321B internal transcribed spacer 1, 5.8S ribosomal RNA gene and internal transcribed spacer 2, complete sequence; and large subunit ribosomal RNA gene, partial sequence	0.5
1819	L42167	Mus musculus (clone R24) rds gene, partial cds	0.16
1820	XM_027078	Homo sapiens ATPase, Class V, type 10D (ATP10D), mRNA	0.16
1821	L27619	Macaca nemestrina T-cell receptor beta chain V region (Vb15.1) gene, partial cds	0.016

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1822	BC003900	Mus musculus, Similar to hypothetical protein 384D8_6, clone MGC:6766 IMAGE:3601298, mRNA, complete cds	0.51
1823	XM_050561	Homo sapiens KIAA0700 protein (KIAA0700), mRNA	0.51
1824	S66407	FLT4=receptor tyrosine kinase isoform FLT4 long {3' region, alternatively spliced} [human, mRNA Partial, 216 nt]	8E-36
1825	AY008805	Equus caballus retinoblastoma (RB1) gene, partial cds	0.058
1826	AJ276629	Rattus norvegicus Sacm21/RT1-A intergenic region, haplotype RT1n and partial RT1-A gene for MHC Class I antigen	3.7
1827	AF029975	Eucalyptus grandis MADS box protein (EGM1) mRNA, complete cds	1.2
1828	AL109708	Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 254679	0.019
1829	AF270353	Staphylococcus epidermidis strain SR1 clone step.4025a02 genomic sequence	0.051
1831	U72236	Dictyostelium discoideum ModA (modA) gene, complete cds	0.5
1832	L15234	Mycoplasma pneumoniae Cys-tRNA, Pro-tRNA, Met-tRNA, Ile-tRNA, Ser-tRNA, fMet-tRNA, Asp-tRNA and Phe-tRNA genes	1.1
1833	XM_012722	Homo sapiens RNA (guanine-7-) methyltransferase (RNMT), mRNA	0.5
1834	AF108228	Ginkgo biloba GinLFY protein (GinLFY) gene, complete cds	4.2
1836	XM_049943	Homo sapiens topoisomerase (DNA) II alpha (170kD) (TOP2A), mRNA	0.47
1837	NC_002674	Aulopus japonicus mitochondrion, complete genome	3.1
1838	AE001399	Plasmodium falciparum chromosome 2, section 36 of 73 of the complete sequence	0.008
1839	U53695	Leishmania enriettii multidrug resistance (lemdr1) gene, 5' UTR	0.5
1840	AF257022	Salmo salar clone BHMS7-009 microsatellite sequence	0.7
1841	AF239571	Acineta superba tRNA-Leu (trnL) gene, partial sequence; and trnL-F intergenic spacer region, complete sequence; chloroplast gene for chloroplast product	5.4
1842	AL032651	Caenorhabditis elegans cosmid Y6D1A, complete sequence	0.019
1844	XM_034229	Homo sapiens similar to hypothetical protein FLJ14260 (H. sapiens) (LOC90803), mRNA	0.068
1845	AL137121	Human DNA sequence from clone RP11-122K21 on chromosome 13, complete sequence [Homo sapiens]	e-147
1846	AF137535	Danio rerio clone Dare-DAXX DAXX protein mRNA, partial cds	1.7
1847	AK023539	Homo sapiens cDNA FLJ13477 fis, clone PLACE1003638	0.21
1848	AF218799	Gallus gallus clone LDH-BT1 lactate dehydrogenase B mRNA, complete cds	6.4
1849	AF250345	Xenopus laevis early growth response protein mRNA, complete cds	0.52
1850	BC006858	Mus musculus, clone IMAGE:3594635, mRNA	1.5
1852	XM_006782	Homo sapiens cyclin T1 (CCNT1), mRNA	0.092
1853	J03883	Rabbit zeta-1 globin processed pseudogene, complete cds	1.5



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1854	AF349951	Homo sapiens HP95 mRNA, complete cds	3E-09
1855	AF268062	Candidatus Carsonella ruddii natural-host Bactericera cockerelli RNA polymerase beta subunit (rpoB) and RNA polymerase beta-prime subunit (rpoC) genes, partial cds	0.17
1856	AF114508	Uncultured gamma proteobacterium SUR-ATT-8 16S ribosomal RNA gene, complete sequence	1.5
1857	AE006785	Sulfolobus solfataricus section 144 of 272 of the complete genome	0.091
1858	AF078684	Psoroptes ovis glutathione S-transferase mRNA, complete cds	0.0006
1859	BC004671	Mus musculus, FK506 binding protein 1a (12 kDa), clone MGC:6253 IMAGE:3498682, mRNA, complete cds	0.12
1860	NM_025083	Homo sapiens hypothetical protein FLJ21128 (FLJ21128), mRNA	e-121
1861	BC004161	Homo sapiens, transmembrane 4 superfamily member (tetraspan NET-7), clone MGC:2447 IMAGE:2958221, mRNA, complete cds	0.051
1862	BC009855	Homo sapiens, Similar to nucleolin, clone MGC:16354 IMAGE:3926227, mRNA, complete cds	e-171
1863	AK016507	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4931439C15, full insert sequence	0.019
1864	AF334756	Homo sapiens interleukin-1 HY2 (IL1HY2) gene, complete cds	1.5
1865	Z68881	Human DNA sequence from cosmid L118G10, Huntington's Disease Region, chromosome 4p16.3	0.005
1866	AJ277737	Homo sapiens partial POLR2J2 gene for RPB11b1 protein, intron 4 (1824 BP)	0.0000001
1867	XM_051572	Homo sapiens heat shock transcription factor 2 (HSF2), mRNA	1E-11
1868	AF256918	Salmo salar clone BHMS267 microsatellite sequence	0.11
1869	AE000557	Helicobacter pylori 26695 section 35 of 134 of the complete genome	0.17
1870	XM_050469	Homo sapiens ferritin, light polypeptide (FTL), mRNA	0.081
1871	XM_042818	Homo sapiens homeo box D4 (HOXD4), mRNA	0.24
1872	AB035093	Petunia x hybrida mRNA for lateral shoot inducing factor, complete cds	1.9
1873	AE006184	Pasteurella multocida PM70 section 151 of 204 of the complete genome	5.6
1874	AE006880	Sulfolobus solfataricus section 239 of 272 of the complete genome	3.3
1875	NC_002669	Bacteriophage bIL310, complete genome	4.7
1876	AK012924	Mus musculus 10, 11 days embryo cDNA, RIKEN full-length enriched library, clone:2810048H02, full insert sequence	1.8
1877	XM_032188	Homo sapiens cell division cycle 27 (CDC27), mRNA	5.5
1878	M33662	Hamster G-o protein alpha subunit 2 mRNA, complete cds	5.8
1879	Y00478	L.esculentum LEACO2 gene	0.28
1880	XM_050519	Homo sapiens annexin A2 (ANXA2), mRNA	8E-34
1881	AF054822	Drosophila melanogaster activin beta precursor, gene, partial cds	0.43

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1882	AB062967	Macaca fascicularis brain cDNA clone:QmoA-10357, full insert sequence	1.7
1883	D87001	Homo sapiens immunoglobulin lambda gene locus DNA, clone:47H9 downstream contig	0.64
1884	AF378137	Plasmodium falciparum clone g2-4-4#5 MB2 gene, partial cds	0.081
1885	XM_011791	Homo sapiens laminin, gamma 3 (LAMC3), mRNA	3E-58
1886	XM_007214	Homo sapiens hypothetical protein FLJ10956 (FLJ10956), mRNA	e-119
1887	AF227741	Rattus norvegicus protein kinase WNK1 (WNK1) mRNA, complete cds	0.96
1888	AL359578	Homo sapiens mRNA; cDNA DKFZp547N163 (from clone DKFZp547N163)	0.063
1889	AE002841	Drosophila melanogaster genomic scaffold 142000013385478, complete sequence	0.19
1890	X01121	Mycoplasma capricolum genes for ribosomal proteins S8 and L6	0.5
1892	AF082924	Trissolcus basalis cytochrome oxidase II gene, partial cds; and tRNA-Asp and tRNA-Lys genes, complete sequence; mitochondrial genes for mitochondrial products	0.02
1893	BC005693	Mus musculus, Similar to RIKEN cDNA 1110002A15 gene, clone MGC:11574 IMAGE:3597594, mRNA, complete cds	1.4
1894	U29721	Entamoeba histolytica p21racB (Eh racB) gene, partial cds	0.15
1895	AK023959	Homo sapiens cDNA FLJ13897 fis, clone THYRO1001706	0.17
1896	XM_038475	Homo sapiens DKFZP564J102 protein (DKFZP564J102), mRNA	6E-33
1897	AL010164	Plasmodium falciparum DNA *** SEQUENCING IN PROGRESS *** from contig 3-95, complete sequence	1.1
1898	AF176059	Helcon sp. 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.009
1899	L34640	Homo sapiens platelet/endothelial cell adhesion molecule-1 (PECAM-1) gene, exons 7, 8 and 9	0.007
1901	AC026061	Homo sapiens BAC clone RP11-223K9 from Y, complete sequence	1.5
1902	AF188516	Staphylococcus aureus Bmr-like protein SblA (sblA) gene, complete cds	0.08
1903	AL360177	Human DNA sequence from clone RP11-86K9 on chromosome 10, complete sequence [Homo sapiens]	0.077
1904	L76261	Meloidogyne javanica mitochondrial transfer RNA His, 16S ribosomal RNA (16S rRNA) genes, ND3 gene, complete cds, and cytochrome b gene, 5' end of CDS	0.17
1905	XM_042904	Homo sapiens mitochondrial ribosomal protein S25 (MRPS25), mRNA	2
1906	XM_051831	Homo sapiens similar to CYTOCHROME P450 51 (CYPL1) (P450L1) (STEROL 14-ALPHA DEMETHYLASE) (LANOSTEROL 14-ALPHA DEMETHYLASE) (LDM) (P450-14DM) (H. sapiens) (LOC93525), mRNA	0.66

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1907	XM_012289	Homo sapiens cytoskeleton associated protein 2 (CKAP2), mRNA	2
1908	U44391	Human Down Syndrome region of chromosome 21, clone A12H1-1B2	0.008
1909	L04961	Mouse nuclear-localized inactive X-specific transcript (Xist) mRNA	1.8
1910	X61202	Methanococcus voltae fruA, fruB, fruG genes for subunits of F420-reducing hydrogenase and fruD orf	0.078
1911	AP000242	Homo sapiens genomic DNA, chromosome 21q22.1, clone:f43D11, SOD-AML region, complete sequence	0.0001
1912	AL023777	S.pombe chromosome III cosmid c1827	0.66
1913	XM_038450	Homo sapiens hypothetical protein FLJ20694 (FLJ20694), mRNA	0
1914	AF129510	Mus musculus DACH protein (Dach) mRNA, complete cds	2.1
1915	AE001405	Plasmodium falciparum chromosome 2, section 42 of 73 of the complete sequence	0.18
1916	XM_039566	Homo sapiens KIAA0948 protein (KIAA0948), mRNA	6.8
1917	AP001431	Homo sapiens genomic DNA, chromosome 21q22.2, clone:T1492, LB7T-ERG region, complete sequence	0.074
1918	AF329137	Camelus bactrianus microsatellite Cms1 sequence	0.008
1919	NM_003816	Homo sapiens a disintegrin and metalloproteinase domain 9 (meltrin gamma) (ADAM9), mRNA	1E-17
1920	AE001414	Plasmodium falciparum chromosome 2, section 51 of 73 of the complete sequence	0.001
1921	U95074	Caenorhabditis elegans protein disulphide isomerase isoform I (pdi-1) and cyclophilin isoform 9 (cyp-9) genes, complete cds	0.029
1922	AB019534	Homo sapiens gene for cathepsin L2, complete cds	0.07
1923	AJ133777	Arabidopsis thaliana mRNA for gamma-adaptin 2	6.6
1924	XM_001304	Homo sapiens cyclin-dependent kinase inhibitor 2C (p18, inhibits CDK4) (CDKN2C), mRNA	0.25
1925	AB037166	Clostridium botulinum genes for ORF-22, HA-70, HA-17, HA-33, NTNHA, neurotoxin, complete cds	0.2
1926	Z48243	A.thaliana PARP mRNA for PARP protein	0.081
1927	XM_041006	Homo sapiens choreoacanthocytosis gene; KIAA0986 protein (KIAA0986), mRNA	0.25
1928	XM_050592	Homo sapiens uncharacterized hematopoietic stem/progenitor cells protein MDS032 (MDS032), mRNA	0.083
1929	U34610	Mus musculus alpha-1(XVIII) collagen (COL18A1) gene, exon 6 and 7	0.008
1930	BC007658	Homo sapiens, clone MGC:747 IMAGE:3343994, mRNA, complete cds	6E-50
1931	AL451135	Human DNA sequence from clone RP11-45G20 on chromosome 6, complete sequence [Homo sapiens]	2
1932	AB004883	Marchantia paleacea mRNA for ribulose 1,5-bisphosphate carboxylase/oxygenase small subunit, complete cds	0.26

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1933	AF019973	Rattus norvegicus neuron-specific enolase (NSE) mRNA, complete cds	0.22
1934	AF231684	Drosophila melanogaster outstretched (os) gene, complete cds	0.75
1935	AC079136	Homo sapiens clone RP11-153L12, complete sequence	0.75
1936	AE006611	Streptococcus pyogenes M1 GAS strain SF370, section 140 of 167 of the complete genome	1.5
1937	AE007418	Streptococcus pneumoniae section 101 of 194 of the complete genome	0.029
1938	L26949	Simian immunodeficiency virus (T5) surface envelope glycoprotein proviral gene, 5' end	0.027
1939	AF343914	Campylobacter jejuni NCTC 11828 LOS biosynthesis cluster, partial sequence	0.58
1940	Z69925	Human DNA sequence from clone LL22NC03-116A5 on chromosome 22 Contains GSSs, complete sequence [Homo sapiens]	6.2
1941	U96876	Homo sapiens insulin induced protein 1 (INSIG1) gene, complete cds	0.78
1942	XM_030024	Homo sapiens similar to protein kinase C binding protein 1 (H. sapiens) (LOC90218), mRNA	0.009
1943	AF226993	Rattus norvegicus selective LIM binding factor mRNA, complete cds	0.7
1944	AF033037	Plasmodium falciparum merozoite surface protein 4, merozoite surface protein 5, merozoite surface protein 2, and adenylosuccinate lyase genes, complete cds	0.69
1945	AB053087	Human immunodeficiency virus type 1 pol gene, reverse transcriptase amino terminal part, partial cds, 99JP-NH3-II plasma virus clone:NH3RT-V3-2-9	0.028
1946	XM_033335	Homo sapiens hypothetical protein PRO2389 (PRO2389), mRNA	0.0001
1947	XM_010334	Homo sapiens transducin (beta)-like 1 (TBL1), mRNA	2.2
1948	AK003943	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1110028F11, full insert sequence	2E-10
1949	AF085600	Drosophila melanogaster inorganic pyrophosphatase NURF-38 (Nurf-38) gene, complete cds	0.78
1950	U79731	Plasmodium berghei extrachromosomal plastid PB-1, ORF470 gene, partial cds, tRNA-Thr, large subunit ribosomal RNA, tRNA-Met, tRNA-Arg, tRNA-Val, tRNA-Arg, tRNA-Leu, tRNA-Asn, tRNA-Ala, and small subunit ribosomal RNA genes, complete sequences	0.72
1951	AK022877	Homo sapiens cDNA FLJ12815 fis, clone NT2RP2002546	0.003
1952	M62755	Potato 4-coumarate--CoA ligase (St4C1-1) gene, complete cds	0.085
1953	AK017902	Mus musculus adult male thymus cDNA, RIKEN full-length enriched library, clone:5830406J20, full insert sequence	2.3
1954	AF164418	Sorghum bicolor maturase (matK) gene, complete cds; chloroplast gene for chloroplast product	0.078
1955	X54567	Human MFD22 dinucleotide repeat DNA	3E-13

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1956	AB056832	Macaca fascicularis brain cDNA clone:QflA-14079, full insert sequence	0.00009
1957	XM_034132	Homo sapiens ubiquitously transcribed tetratricopeptide repeat gene, Y chromosome (UTY), mRNA	7
1958	L09706	Homo sapiens complement component 2 (C2) gene allele b, exons 1 through 8	0.24
1959	XM_017231	Homo sapiens hypothetical protein FLJ23342 (FLJ23342), mRNA	8E-76
1960	X83989	P.palustris chloroplast rbcL gene, promoter region	0.003
1961	AK025090	Homo sapiens cDNA: FLJ21437 fis, clone COL04285	0
1962	AK013805	Mus musculus adult male hippocampus cDNA, RIKEN full-length enriched library, clone:2900079F10, full insert sequence	0.14
1963	AE006210	Pasteurella multocida PM70 section 177 of 204 of the complete genome	0.042
1964	AF075080	Homo sapiens full length insert cDNA YQ80D07	0.000001
1965	D42118	Tobacco gene for parAs protein, promoter region and partial cds	0.009
1966	AF269350	Staphylococcus epidermidis strain SR1 clone step.1002d12 genomic sequence	2.3
1967	AF068904	Staphylococcus aureus cell division protein FtsZ (ftsZ) gene, partial cds; YlmD (ylmD), YlmE (ylmE), YlmF (ylmF), YlmG (ylmG), and YlmH (ylmH) genes, complete cds; and cell division protein DivIVA (divIVA) gene, partial cds	0.19
1968	AL589920	Human DNA sequence from clone RP11-117A20 on chromosome 6, complete sequence [Homo sapiens]	0.003
1969	AF027688	Mus musculus survival motor neuron (Smn) gene, promoter region and partial cds	0.56
1970	AL049340	Homo sapiens mRNA; cDNA DKFZp564P056 (from clone DKFZp564P056)	0.25
1971	AJ223385	Fowlpox virus strain HP-440 DNA, isolate FP9, 14.6 kb fragment	0.25
1972	U25354	Human mitochondrial DNA control region, Indonesian, sequence 1 of 60	3E-65
1973	AF269868	Staphylococcus epidermidis strain SR1 clone step.1027g02 genomic sequence	0.083
1974	AE003326	Drosophila melanogaster genomic scaffold 142000013385598, complete sequence	0.087
1975	XM_050217	Homo sapiens RNA binding protein (LOC84549), mRNA	2.1
1976	AE001402	Plasmodium falciparum chromosome 2, section 39 of 73 of the complete sequence	0.026
1977	XM_001935	Homo sapiens forkhead box D2 (FOXD2), mRNA	2.1
1978	AL590384	Human DNA sequence from clone RP11-349A16 on chromosome Xq22.3-24, complete sequence [Homo sapiens]	0.008
1979	AL117050	Botrytis cinerea strain T4 cDNA library under conditions of nitrogen deprivation	2.2
1980	XM_037529	Homo sapiens KIAA0410 gene product (KIAA0410), mRNA	2.3
1981	X56212	C.elegans gene for vitellogenin	1.8

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
1982	AF231684	Drosophila melanogaster outstretched (os) gene, complete cds	0.7
1983	AB032264	Danio rerio mRNA for glycogen synthase kinase 3 alpha, complete cds	2.2
1984	AK022877	Homo sapiens cDNA FLJ12815 fis, clone NT2RP2002546	0.009
1985	U89140	Mus musculus aldose reductase gene, promoter region and exon 1	0.69
1986	M37036	Rat nucleolar proteins B23.1 and B23.2	0.086
1987	XM_035498	Homo sapiens amiloride-sensitive cation channel 2, neuronal (ACCN2), mRNA	0.25
1988	U40944	Caenorhabditis elegans cosmid PDB1, complete sequence	0.025
1989	AF102762	Dasylagon n. sp. 'Mardulyn & Whitfield' 16S large subunit ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.24
1990	AF247631	Maoricicada iolanthe cytochrome oxidase subunit I (COI) gene, partial cds; mitochondrial gene for mitochondrial product	0.026
1991	Z81538	Caenorhabditis elegans cosmid F45H10, complete sequence	6.2
1992	Z72516	Caenorhabditis elegans cosmid T25G3, complete sequence	0.75
1993	AE002201	Chlamydomonas reinhardtii AR39, section 32 of 94 of the complete genome	6.6
1994	NM_003816	Homo sapiens a disintegrin and metalloproteinase domain 9 (meltrin gamma) (ADAM9), mRNA	2E-17
1995	AL158132	Human DNA sequence from clone RP3-323A24 on chromosome 4. Contains GSSs and a putative CpG island, complete sequence [Homo sapiens]	0.074
1996	NM_023122	Mus musculus glycoprotein m6b (Gpm6b), mRNA	5.7
1997	AF014502	Glycine max seed coat peroxidase precursor (Ep) gene, complete cds	1.8
1998	AJ270226	Entodinium caudatum partial mRNA for putative glycosyltransferase, clone L48	2.1
1999	AF159913	Euplotes crassus transposon Tec1 clone Tec1-2 orf 2 and orf 3 pseudogenes, complete sequence	0.011
2000	AF101309	Caenorhabditis elegans cosmid H24G06, complete sequence	2.2
2001	AB021240	Hypseleotris compressus mitochondrial gene for Cytochrome b, complete cds	0.022
2002	AC078798	Homo sapiens 3 BAC PAC-56F11 (Roswell Park Cancer Institute Human BAC Library) complete sequence	0.001
2003	AK021504	Homo sapiens cDNA FLJ11442 fis, clone HEMBA1001327	0.76
2004	AF314531	Chilli leaf curl virus A component, complete sequence	0.23
2005	XM_047794	Homo sapiens KIAA1641 protein (KIAA1641), mRNA	e-123
2006	AC079136	Homo sapiens clone RP11-153L12, complete sequence	0.65
2007	AE001422	Plasmodium falciparum chromosome 2, section 59 of 73 of the complete sequence	0.001
2009	AJ306692	Drosophila virilis ORF1, rPL14 gene and ORF2	0.26
2010	AC084242	Arabidopsis thaliana chromosome 1 BAC T24P22 genomic sequence, complete sequence	0.72

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2011	Z16768	H. sapiens (D12S90) DNA segment containing (CA) repeat; clone AFM172xd8; single read	0.058
2012	AF311633	Eimeria nieschulzi ORF470 gene, partial cds; apicoplast gene for apicoplast product	1.9
2013	XM_012933	Homo sapiens hypothetical protein FLJ11656 (FLJ11656), mRNA	2.5
2014	AB035190	Homo sapiens RHD gene, intron 2, complete sequence	1.6
2015	NC_002135	Pleurotus ostreatus mitochondrial plasmid mlp1, complete sequence	0.22
2016	AF085619	Elgaria paucicarinata NADH dehydrogenase subunit I (ND1) gene, partial cds; tRNA-Ile, tRNA-Gln, and tRNA-Met genes, complete sequence; NADH dehydrogenase subunit II (ND2) gene, complete cds; tRNA-Trp, tRNA-Ala, tRNA-Asn, tRNA-Cys, and tRNA-Tyr genes, c>	2.3
2017	D85424	Homo sapiens gene for alphaS1-casein, 5'flanking region	0.077
2018	AE001138	Borrelia burgdorferi (section 24 of 70) of the complete genome	0.026
2019	BC007114	Homo sapiens, clone IMAGE:4295422, mRNA	0.23
2020	AF080510	Homo sapiens mannose-binding protein gene, exon 4 and complete cds	0.00001
2022	XM_027941	Homo sapiens hypothetical protein DKFZp761J139 (DKFZp761J139), mRNA	0.003
2023	Z68996	H.sapiens mRNA for immunoglobulin kappa light chain VJ region (ID POM021)	0.15
2024	AB049191	Mus musculus DNA, clone:lambda4/6, endogenous mouse mammary tumor virus LTR region	0.15
2025	U62057	Mycoplasma capricolum NADH oxidase (naox) gene, partial cds, and lipoate-protein ligase (lpla), pyruvate dehydrogenase EI alpha subunit (odpa), pyruvate dehydrogenase EI beta subunit (odpb), pyruvate dehydrogenase EII (odp2), dihydrolipoamide dehydroge>	3
2026	AY018527	Oryza sativa microsatellite MRG0852 containing (AT)X17, genomic sequence	0.0003
2027	AF266084	Phyllopetalia apicalis large subunit ribosomal RNA gene, partial sequence; tRNA-Valine gene, complete sequence; and small subunit ribosomal RNA gene, partial sequence; mitochondrial genes for mitochondrial products	0.009
2028	AF249912	Cucumis melo galactinol synthase (GAS1) gene, upstream sequence and partial cds	0.021
2029	XM_048172	Homo sapiens hypothetical protein DKFZp434F1017 (DKFZP434F1017), mRNA	6.5
2030	AF367436	Erysimum cheiri chloroplast outer envelope membrane protein mRNA, complete cds	1.2
2031	AF135026	Homo sapiens kallikrein-like protein 3 (KLK9) gene, complete cds, alternatively spliced	0.76
2032	Z69782	A.thermophilum xylR gene, xynA gene and alfA gene	0.0004

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2033	NM_013730	Mus musculus signaling lymphocyte activation molecule (Slam), mRNA	6.4
2034	NC_002811	Tarsius bancanus mitochondrion, complete genome	0.69
2035	AF184822	Arabidopsis thaliana inhibitor tagged site ITS55 genomic sequence	0.24
2036	AE006626	Streptococcus pyogenes M1 GAS strain SF370, section 155 of 167 of the complete genome	5.4
2037	AF324424	Ichthyophthirius multifiliis immobilization antigen isoform (IAG52A) gene, complete cds	0.003
2038	AL391223	Human chromosome 14 DNA sequence Partial sequence from BAC R-325N7_PCR1 of library RPCI-11 from chromosome 14 of Homo sapiens (Human), complete sequence	6.3
2040	AF369348	Rabies virus V231.RB phosphoprotein (P) gene, complete cds	1.4
2041	AF023666	Apis mellifera sn-glycerol-3-phosphate dehydrogenase (Gpdh) gene, complete cds	0.25
2042	XM_011553	Homo sapiens aldo-keto reductase family 1, member D1 (delta 4-3-ketosteroid-5-beta-reductase) (AKR1D1), mRNA	0.001
2043	XM_004530	Homo sapiens nuclear receptor subfamily 2, group E, member 1 (NR2E1), mRNA	5E-41
2044	AJ277602	Gallus gallus partial mRNA for initiation of translation factor 2 (cif2 gene)	0.72
2045	XM_041537	Homo sapiens echinoderm microtubule-associated protein-like (EMAPL), mRNA	1.7
2046	AE001429	Plasmodium falciparum chromosome 2, section 66 of 73 of the complete sequence	0.57
2047	L03188	Saccharomyces cerevisiae integrin analogue gene, complete cds	0.23
2048	XM_034810	Homo sapiens similar to ALU SUBFAMILY SQ SEQUENCE CONTAMINATION WARNING ENTRY (H. sapiens) (LOC90908), mRNA	2E-25
2049	AE006570	Streptococcus pyogenes M1 GAS strain SF370, section 99 of 167 of the complete genome	0.64
2050	AY023977	Oryza sativa microsatellite MRG6302 containing (ATTA)X6, closest to marker R1674, genomic sequence	0.6
2051	M91384	Dictyostelium discoideum thioredoxin (TRX1) mRNA, complete cds	0.68
2052	XM_032748	Homo sapiens KIAA1634 protein (KIAA1634), mRNA	0.066
2053	AB004814	Oryza sativa DNA for NLS receptor, complete cds	0.009
2054	AF130049	Homo sapiens clone FLB3411 PRO0852 mRNA, complete cds	0.078
2055	Y19213	Homo sapiens putative psihHbA pseudogene for hair keratin, exons 2 to 7	0.038
2056	AF305146	Picea abies clone 1PABCA3F hypomethylated genomic sequence	1.8
2057	Z67997	Human DNA sequence from cosmid L206D7, Huntington's Disease Region, chromosome 4p16.3	0.0001
2058	U51024	Human Down Syndrome region of chromosome 21 DNA	0.0008
2059	AC092063	Homo sapiens clone RP11-745H7, complete sequence	0



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2060	AE002123	Ureaplasma urealyticum section 24 of 59 of the complete genome	1.8
2061	Z68019	HIV-1 DNA V3 region (homosexual H1031, seroconversion sample 1987)	0.25
2062	XM_006487	Homo sapiens spectrin, beta, non-erythrocytic 2 (SPTBN2), mRNA	0.000003
2063	AF329716	Oncorhynchus mykiss clone OSU9 T cell receptor beta chain variable region gene, partial cds	0.0008
2064	AC024773	Caenorhabditis elegans cosmid Y40C7A, complete sequence	0.035
2065	XM_032748	Homo sapiens KIAA1634 protein (KIAA1634), mRNA	0.079
2066	M58526	Human alpha-5 collagen type IV (COL4A5) mRNA, 3' end	2.1
2068	X56697	B.thuringiensis gene for sigma factor 35	0.59
2069	D00768	Pig pituitary glycoprotein hormone alpha subunit gene, exons 3 and 4 and 3'flank	1.6
2070	AF110621	Boophilus microplus 12S ribosomal RNA gene, partial sequence; tRNA-Ile, tRNA-Gln, and tRNA-Phe genes, complete sequence; and NADH dehydrogenase subunit 5 (ND5) gene, partial cds, mitochondrial genes for mitochondrial products	0.21
2071	AC024779	Caenorhabditis elegans cosmid Y43B11AL, complete sequence	0.24
2072	AK023589	Homo sapiens cDNA FLJ13527 fis, clone PLACE1006076	0
2073	X77691	W.suaveolens mitochondrial DNA intergenic region between ORF1 and 15S rRNA genes	0.24
2074	Z68749	Caenorhabditis elegans cosmid F56H11, complete sequence	1.4
2075	AF302113	Solanum tuberosum glutamine synthetase GS2 (gln) mRNA, partial cds; nuclear gene for plastid product	1.4
2076	U27078	Trichaptum abietinum mitochondrial small subunit ribosomal RNA, mitochondrial gene, partial sequence	0.64
2077	XM_012456	Homo sapiens golgin-67 (KIAA0855), mRNA	2.2
2078	AB032960	Homo sapiens mRNA for KIAA1134 protein, partial cds	1E-36
2079	XM_052376	Homo sapiens hypothetical gene supported by AF106046; AK000332 (LOC93587), mRNA	0.66
2080	AB021866	Homo sapiens KIP gene, complete cds	1.3
2081	XM_029213	Homo sapiens hypothetical protein DKFZp564O0523 (DKFZP564O0523), mRNA	0.38
2082	AF384143	Triticum aestivum pathogenesis-related protein 1 mRNA, complete cds	0.0003
2083	AE002368	Neisseria meningitidis serogroup B strain MC58 section 10 of 206 of the complete genome	0.71
2084	AE006662	Sulfolobus solfataricus section 21 of 272 of the complete genome	0.63
2085	AY020760	Oryza sativa microsatellite MRG3085 containing (TA)X13, closest to marker R2976, genomic sequence	6.9
2086	AF161419	Homo sapiens HSPC301 mRNA, partial cds	1.8
2087	AJ249838	Gallus gallus mRNA for radixin (rdx gene)	2.1
2088	U43536	Corynebacterium glutamicum heat shock, ATP-binding protein (clpB) gene, complete cds	0.22
2089	XM_037588	Homo sapiens KIAA0874 protein (KIAA0874), mRNA	2E-34

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2090	NC_002697	Chrysomya chloropyga mitochondrion, complete genome	0.077
2091	AF332207	Caenorhabditis elegans clone yk509b7 nuclear receptor NHR-57 gene, partial cds	0.45
2092	U39886	Bos taurus Y-chromosome specific genomic sequence	0.2
2093	Z19055	B.aphidicola tryptophan operon	0.26
2094	AJ290309	Simethis mattiazzii chloroplast trnL-trnF intergenic spacer	0.57
2095	AK013631	Mus musculus adult male hippocampus cDNA, RIKEN full-length enriched library, clone:2900041A09, full insert sequence	0.18
2096	AF015468	Plasmodium falciparum microsatellite LT103 sequence	0.11
2097	AJ277734	Sus scrofa microsatellite sequence S0601	0.4
2098	AF203341	Glycine max chloroplast carboxyl transferase alpha subunit (accA-4) nuclear pseudogene, partial sequence; and putative steroid reductase gene, complete cds	0.001
2099	XM_052597	Homo sapiens KIAA1350 protein (KIAA1350), mRNA	0
2100	Z96649	H.sapiens telomeric DNA sequence, clone 6QTEL010, read 6QTELOO010.seq	0.007
2101	BC009105	Mus musculus, Harvey rat sarcoma oncogene, subgroup R, clone MGC:6162 IMAGE:3483313, mRNA, complete cds	4.1
2102	AF245117	Mus musculus leukocyte cell-surface molecule (Ly9) gene, exon 1	0.025
2103	AL023810	Caenorhabditis elegans cosmid C16D2, complete sequence	0.008
2104	X17051	E.gracilis DNA for ribosomal protein operon	0.21
2105	AF005392	Homo sapiens alpha tubulin (TUBA2) gene, partial cds	0.63
2106	AE002798	Drosophila melanogaster genomic scaffold 142000013385466, complete sequence	0.025
2107	AE002114	Ureaplasma urealyticum section 15 of 59 of the complete genome	0.074
2108	L48039	Fibrobacter succinogenes endo-1,4-beta-D-glucanase gene, complete cds, endo-1,4-beta-D-glucanase gene, 5' end of cds	2
2109	D87922	Rat DNA for 3'UTR of skeletal muscle sodium channel, partial sequence	0.71
2110	AF157137	Gongronella butleri 18S ribosomal RNA gene, partial sequence	0.24
2111	Z92970	Caenorhabditis elegans cosmid H06O01, complete sequence	0.24
2112	AB035494	Alternaria alternata gene for Akt3-2, complete cds	0.61
2113	M38351	Rat embryonic glutamic acid decarboxylase gene, embryonic stop (ES) exon	0.67
2114	X16715	D. melanogaster gene for chorion protein s16	0.21
2115	U16271	Homo sapiens AMP deaminase isoform L (AMPD2) gene, exons 1A and 1B	0.07
2116	AF317672	Helicobacter pylori isolate 4424 vacuolating cytotoxin VacA (vacA) gene, partial cds	0.24
2117	NM_010250	Mus musculus gamma-aminobutyric acid (GABA-A) receptor, subunit alpha 1 (Gabra1), mRNA	0.76
2118	BC010786	Mus musculus, Similar to CREB/ATF family transcription factor, clone MGC:18836 IMAGE:4211480, mRNA, complete cds	0.69

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2119	U67482	Methanococcus jannaschii section 24 of 150 of the complete genome	0.24
2120	U73373	HIV-1 clone 1063-2-VPR vpr gene, complete cds	2
2121	AE007370	Streptococcus pneumoniae section 53 of 194 of the complete genome	0.68
2122	AL449163	Human DNA sequence from clone RP11-533E16 on chromosome 6, complete sequence [Homo sapiens]	2E-11
2123	X63382	Antithamnion sp. rhodoplast genes atpI, atpH, atpG, atpF, atpD, atpA, orf1, orf2 and orf3	0.081
2124	AF186797	Homo sapiens RalGDS-like (RGL) gene, exon 17	0.009
2125	AF110796	Rattus norvegicus GABAB1 receptor (GABABR1) gene, exons 1 through 9	4.2
2126	XM_038798	Homo sapiens KIAA1457 protein (KIAA1457), mRNA	2E-96
2127	U96998	Homo sapiens MET proto-oncogene, intron 19, 3' end	0.67
2128	AE006410	Lactococcus lactis subsp. lactis IL1403 section 172 of 218 of the complete genome	0.084
2129	AB050422	Macaca fascicularis brain cDNA, clone:QnpA-21421	6.9
2130	AF375597	Mus musculus medium and short chain L-3-hydroxyacyl-Coenzyme A dehydrogenase (Mschad) gene, exons 2 through 8, and complete cds; nuclear gene for mitochondrial product	2.2
2131	AE002758	Drosophila melanogaster genomic scaffold 142000013385931, complete sequence	0.26
2132	AJ008105	Chrysolina timarchoides COI gene, partial CDS	0.031
2133	U67526	Methanococcus jannaschii section 68 of 150 of the complete genome	2
2134	AJ223966	Mus musculus NAGA gene	0.63
2135	AF016986	Callicebus moloch gamma1-globin gene, complete cds	0.68
2136	U66872	Danio rerio enhancer of rudimentary homolog mRNA, complete cds	0.029
2137	AJ271220	Homo sapiens partial gene for dystrophin, intron 49	0.009
2138	AF075602	Canis familiaris prostaglandin E2 receptor subtype EP2 mRNA, complete cds	0.23
2139	XM_045015	Homo sapiens hypothetical protein FLJ00052 (FLJ00052), mRNA	0.75
2140	AY034614	Danio rerio Sec61 alpha form B mRNA, complete cds	0.1
2141	XM_028150	Homo sapiens similar to MACROPHAGE MANNOSE RECEPTOR PRECURSOR (H. sapiens) (LOC90010), mRNA	1.9
2142	M24026	Rat MHC class I RT1 (RT44) mRNA (u haplotype), 3' end	0.24
2143	AK010194	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2310076E16, full insert sequence	2
2144	AF165062	Hepatitis C virus strain MD9-2 complete genome	1.2
2145	AE007469	Streptococcus pneumoniae section 152 of 194 of the complete genome	2.1
2146	Z97349	Plasmodium falciparum DNA *** SEQUENCING IN PROGRESS *** from contig 3-06, complete sequence	0.046
2147	NM_010161	Mus musculus ecotropic viral integration site 2 (Evi2), mRNA	0.02

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2148	AE005586	Escherichia coli O157:H7 EDL933 genome, contig 3 of 3, section 205 of 290	1.2
2149	AF332928	Psacothia hiliaris isolate HA15 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.069
2150	D49504	Borrelia garinii gene for outer surface protein C, complete cds	0.37
2151	L25647	Homo sapiens fibroblast growth factor receptor gene (located in the central MHC) signal peptide and consecutive exon	0.05
2152	AB040746	Carassius auratus gene for c-MYC, complete cds	0.063
2153	X55978	T. brucei ESAG 8 gene for a leucine-rich repeat family protein	0.12
2154	AB010426	Phytoplasma sp. gene for AL1 like protein, complete cds	0.009
2155	XM_005841	Homo sapiens cdk inhibitor p21 binding protein (TOK-1), mRNA	5.8
2156	AK025222	Homo sapiens cDNA: FLJ21569 fis, clone COL06508	1E-33
2157	AF234652	Mesembryanthemum crystallinum protein kinase MK5 mRNA, complete cds	0.2
2158	AE006513	Streptococcus pyogenes M1 GAS strain SF370, section 42 of 167 of the complete genome	9.2
2159	XM_003660	Homo sapiens calcium modulating ligand (CAMLG), mRNA	0.023
2160	AF003490	Mesostoa kerri 16S ribosomal RNA gene, partial sequence	0.000004
2161	XM_048768	Homo sapiens tetratricopeptide repeat domain 3 (TTC3), mRNA	6.7
2162	AF323442	Plasmodium yoelii yoelii clone 10 235 kDa rhoptry protein (IIIa.1) gene, partial cds	0.019
2163	AK016560	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4932441H21, full insert sequence	4.7
2164	Y12332	E.tenella plastid genes rps12, rps7, tuf, ORF45, and tRNA-Phe	0.003
2165	AL114081	Botrytis cinerea strain T4 cDNA library under conditions of nitrogen deprivation	0.002
2166	AF332207	Caenorhabditis elegans clone yk509b7 nuclear receptor NHR-57 gene, partial cds	0.49
2167	AF102263	Helicoverpa zea clone S211 cytochrome P450 (CYP6B8) mRNA, complete cds	0.074
2168	AL133397	Human DNA sequence from clone RP1-213J1p on chromosome 22q11.21-12.2, complete sequence [Homo sapiens]	0.039
2169	AL157423	Homo sapiens mRNA; cDNA DKFZp761O0511 (from clone DKFZp761O0511)	7E-15
2170	AF282578	Homo sapiens clone 20ptel_c1622_12_3.3f sequence	9E-17
2171	AB022280	Oryzias latipes gene for soluble guanylyl cyclase alpha subunit, complete cds	3.7
2172	AF052744	Homo sapiens transcriptional repressor p54 gene, promoter region and partial cds	2
2173	XM_007685	Homo sapiens MAGE-like 2 (MAGEL2), mRNA	0.008
2174	AK019539	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4921514G21, full insert sequence	1.6
2175	AE007472	Streptococcus pneumoniae section 155 of 194 of the complete genome	6.2
2176	AL162381	Human DNA sequence from clone RP11-174B19 on chromosome 6, complete sequence [Homo sapiens]	0.059

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2177	M21836	Mouse extra-embryonic endodermal cytokeratin type II (EndoA) mRNA, complete cds	e-138
2178	X06292	Human c-fes/fps proto-oncogene	1.7
2179	AF360278	Arabidopsis thaliana putative MLH1 protein (AT4g09140) mRNA, complete cds	0.0001
2180	X78548	G.max gene encoding epoxide hydrolase	0.68
2181	Z56222	H.sapiens CpG island DNA genomic MseI fragment, clone 97b6, reverse read cpg97b6.rt1a	5E-60
2182	AF200412	Wiebesia brusi cytochrome oxidase subunit I (COI) gene, partial cds; tRNA-Leu gene, complete sequence; and cytochrome oxidase subunit II (COII) gene gene, partial cds; mitochondrial genes for mitochondrial products	0.084
2183	AF360327	Arabidopsis thaliana putative metal-binding protein (MLE2.16/AT5g63530) mRNA, complete cds	0.014
2184	XM_005837	Homo sapiens CUG triplet repeat, RNA-binding protein 2 (CUGBP2), mRNA	0.22
2185	BC008152	Mus musculus, caspase 1, clone MGC:6106 IMAGE:3583883, mRNA, complete cds	1.9
2186	U41289	Dictyostelium discoideum K7 kinesin-like protein mRNA, complete cds	0.66
2187	AF163863	Mustela vison tyrosine aminotransferase gene, complete cds	0.23
2188	XM_017198	Homo sapiens hypothetical protein FLJ12085 (FLJ12085), mRNA	4E-36
2189	D16180	Human PMP2 gene for peripheral myelin protein 2, exon 2 and 3	0.68
2190	AB037920	Clostridium botulinum genes for ORF-22, HA-70, HA-17, HA-33, NTNHA, neurotoxin, complete cds	0.083
2191	AE006703	Sulfolobus solfataricus section 62 of 272 of the complete genome	1.6
2192	AB047401	Periplaneta americana Vg-2 mRNA for vitellogenin-2, complete cds	0.25
2193	U11491	Human rotavirus M37 non-structural protein NSP1 mRNA, complete cds	0.17
2194	AF338818	Mus musculus flavohemoprotein b5/b5R mRNA, complete cds	2.3
2195	AP001290	Mus musculus genomic DNA, chromosome 7, clone:B118_5, complete sequence	0.56
2196	XM_010940	Homo sapiens putative GR6 protein (GR6), mRNA	2E-61
2197	AF119554	Plasmodium falciparum para-aminobenzoic acid synthetase gene, complete cds	0.009
2198	AY035995	Streptococcus pneumoniae strain SPN1506 topoisomerase IV subunit A (parC) gene, complete cds	1.2
2199	XM_006892	Homo sapiens cAMP responsive element binding protein-like 2 (CREBL2), mRNA	0.049
2200	X87127	Borrelia burgdorferi repeated DNA element, 30.5 kb circular plasmid copy	0.46
2201	AB010958	Clostridium thermocellum xynA and xynB genes for xylanase, complete cds	0.23

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2202	AE003004	Drosophila melanogaster genomic scaffold 142000013385492, complete sequence	0.23
2203	U63418	Mus musculus uncoupling protein (Ucp) gene, nuclear gene encoding mitochondrial protein, complete cds	0.23
2204	AJ243265	Homo sapiens partial PGM1 gene for phosphoglucomutase 1, exons 5-7	e-135
2205	X13883	Yersinia pseudotuberculosis virulence plasmid pIBI yopA gene for Yop1 protein	2.1
2206	XM_011639	Homo sapiens KIAA0535 gene product (KIAA0535), mRNA	8E-22
2207	AF098990	Caenorhabditis elegans cosmid H35N03	2.2
2208	AB037920	Clostridium botulinum genes for ORF-22, HA-70, HA-17, HA-33, NTNHA, neurotoxin, complete cds	0.2
2209	AB053087	Human immunodeficiency virus type 1 pol gene, reverse transcriptase amino terminal part, partial cds, 99JP-NH3-II plasma virus clone:NH3RT-V3-2-9	0.028
2210	NM_008989	Mus musculus purine rich element binding protein A (Pura), mRNA	0.028
2211	U97291	Equus caballus random genomic clone JH226	0.008
2212	AK001699	Homo sapiens cDNA FLJ10837 fis, clone NT2RP4001260, highly similar to Homo sapiens mRNA for KIAA0875 protein	0.016
2213	U84532	Human dystrobrevin (DTN) gene, exon 4	0.23
2214	Z54522	H.sapiens CpG island DNA genomic MseI fragment, clone 12b6, forward read cpg12b6.fl1c	1.5
2215	Z69666	Human DNA sequence from cosmid 24F8 from a contig from the tip of the short arm of chromosome 16, spanning 2Mb of 16p13.3. Contains ESTs, repeat polymorphism and CpG island	6.5
2216	M69205	Ockelbo virus complete genome	2.2
2217	AF202552	Homo sapiens DNA methyltransferase (DNMT1) gene, exons 2, 3, and 4	0.24
2218	D16541	Chicken DNA for connectin(titin), partial sequence	0.064
2220	AC023351	Homo sapiens clone RP11-637J20, complete sequence	1E-59
2221	AL512305	Human DNA sequence from clone RP11-85E24 on chromosome 6, complete sequence [Homo sapiens]	0.002
2222	U67581	Methanococcus jannaschii section 123 of 150 of the complete genome	5
2223	AE007428	Streptococcus pneumoniae section 111 of 194 of the complete genome	1.9
2224	AK023601	Homo sapiens cDNA FLJ13539 fis, clone PLACE1006640	1.7
2225	AF375468	Homo sapiens endothelial protein C receptor (PROCR) gene, complete cds	0.016
2226	AF350726	Symphyglossum sanguineum chloroplast tRNA-Leu (trnL) gene and trnL-trnF intergenic spacer, partial sequence	1.4
2227	NM_008308	Mus musculus 5-hydroxytryptamine (serotonin) receptor 1A (Htr1a), mRNA	0.23
2228	Z62421	H.sapiens CpG island DNA genomic MseI fragment, clone 68h2, forward read cpg68h2.fl1a	4E-68

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2229	AF210834	Homo sapiens HARP (HARP) gene, exons 3 and 4	0.008
2230	L81672	Homo sapiens (subclone 2_b12 from P1 H49) DNA sequence, complete sequence	0.13
2231	XM_008431	Homo sapiens integrin, alpha 3 (antigen CD49C, alpha 3 subunit of VLA-3 receptor) (ITGA3), mRNA	1.8
2232	AE006295	Lactococcus lactis subsp. lactis IL1403 section 57 of 218 of the complete genome	0.19
2233	U39693	Mycoplasma genitalium section 15 of 51 of the complete genome	0.21
2234	AL032629	Caenorhabditis elegans cosmid Y102F5A, complete sequence	0.46
2235	AF029114	Ascogaster sp. 16S ribosomal RNA gene, mitochondrial gene for mitochondrial RNA, partial sequence	0.076
2236	AF150036	Hyalomma dromedarii 12S small ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.63
2237	AF013711	Homo sapiens 22 kDa actin-binding protein (SM22) gene, complete cds	0.6
2238	XM_035961	Homo sapiens hypothetical protein FLJ10849 (FLJ10849), mRNA	0.77
2239	AJ290957	Drosophila erecta partial eIF2g gene for eukaryotic translation initiation factor 2 gamma and Su(var)3-9 gene for heterochromatin protein	0.24
2240	AF282004	Homo sapiens clone 15qtel_c366at7 sequence	8.2
2241	AF104915	Plasmodium falciparum protein serine/threonine kinase-1 (psk1) gene, complete cds	0.009
2242	M22064	Mouse MHC class I Lyt-2-a gene encoding lyt-2.1 T-cell surface alloantigen, complete cds	0.049
2243	AF265368	Hypseleotris compressa 12S ribosomal RNA gene, complete sequence; mitochondrial gene for mitochondrial product	0.21
2245	AE001397	Plasmodium falciparum chromosome 2, section 34 of 73 of the complete sequence	0.024
2246	AK004676	Mus musculus adult male lung cDNA, RIKEN full-length enriched library, clone:1200009I24, full insert sequence	0.56
2247	XM_002436	Homo sapiens sterile-alpha motif and leucine zipper containing kinase AZK (ZAK), mRNA	0.67
2248	AE006324	Lactococcus lactis subsp. lactis IL1403 section 86 of 218 of the complete genome	0.47
2249	XM_042833	Homo sapiens KIAA0295 protein (KIAA0295), mRNA	5.1
2250	X63412	B.burgdorferi plasmid ospA gene for outer surface protein A	0.36
2251	AK024235	Homo sapiens cDNA FLJ14173 fis, clone NT2RP2002755	1.8
2252	U69826	Eryx miliaris nogajorum cytochrome b (cytb) gene, mitochondrial gene encoding mitochondrial protein, partial cds	5.9
2254	AF038086	HIV-1 isolate TZB0036 from Tanzania, gp120 C2-C4 region (env) gene, partial cds	0.077
2255	AF317082	Adoncholaimus thalassophygas isolate Sou39 large subunit ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.003
2256	NM_005386	Homo sapiens neuronatin (NNAT), mRNA	0.6

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2257	XM_037301	Homo sapiens hypothetical protein FLJ12697 (FLJ12697), mRNA	2E-61
2258	XM_028046	Homo sapiens KIAA0220 protein (KIAA0220), mRNA	5E-61
2259	U94520	Lactococcus lactis plasmid pND861 abortive phage resistance proteins (abiLi) and (abiLii) genes, complete cds	0.81
2260	U00037	Caenorhabditis elegans cosmid T20H4	0.081
2261	Z74866	S.cerevisiae chromosome XV reading frame ORF YOL124c	0.55
2262	Z92779	Caenorhabditis elegans cosmid C44E1, complete sequence	0.7
2263	V00694	Saccharomyces cerevisiae mitochondrion COX/OXI3 gene encoding for cytochrome oxidase subunit 1	0.021
2264	AC010728	Homo sapiens BAC clone RP11-258E22 from Y, complete sequence	3E-30
2265	AJ406392	Beta vulgaris partial En/Spm-like transposon, clone 44.9	0.054
2266	AE001430	Plasmodium falciparum chromosome 2, section 67 of 73 of the complete sequence	0.064
2267	AF378270	Pangasius sp. ZZSH-2001 microsatellite PSP-G 456 sequence	1.1
2268	XM_047227	Homo sapiens hypothetical gene supported by AL122112 (LOC92776), mRNA	0.38
2269	AE002758	Drosophila melanogaster genomic scaffold 142000013385931, complete sequence	0.2
2270	AL115861	Botrytis cinerea strain T4 cDNA library under conditions of nitrogen deprivation	0.14
2271	AE006407	Lactococcus lactis subsp. lactis IL1403 section 169 of 218 of the complete genome	1.8
2272	XM_049351	Homo sapiens KIAA1600 protein (KIAA1600), mRNA	0.0007
2273	AE005977	Caulobacter crescentus section 303 of 359 of the complete genome	5.2
2274	XM_007057	Homo sapiens chromosome 12 open reading frame 5 (C12orf5), mRNA	0.63
2275	XM_031923	Homo sapiens hypothetical gene supported by AK023761 (LOC90466), mRNA	0.0000007
2276	AJ005330	pGAI(-) SK positive selection cloning vector gltS gene	3E-21
2277	XM_029246	Homo sapiens collagen, type I, alpha 2 (COL1A2), mRNA	0.051
2278	AF185279	Homo sapiens polymerase delta small subunit (POLD2) gene, partial sequence	0.002
2279	AF080592	Mus musculus centrin (Cetn2) gene, complete cds	1.8
2280	XM_033626	Homo sapiens nucleoporin-like protein 1 (NLP_1), mRNA	3.6
2281	AB011667	Ipomoea purpurea genes for dihydroflavonol 4-reductase, complete cds	0.25
2282	AB011667	Ipomoea purpurea genes for dihydroflavonol 4-reductase, complete cds	0.25
2283	XM_002698	Homo sapiens LOC89635 (LOC89635), mRNA	6.3
2284	BC009385	Homo sapiens, clone IMAGE:4127835, mRNA	0.61
2285	U39718	Mycoplasma genitalium section 40 of 51 of the complete genome	3.4
2286	AB036755	Schizosaccharomyces pombe spo14/stl1 gene for Sec12-like protein, complete cds	0.079



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2287	AF369960	Sepiella maindroni isolate c 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.22
2288	AE005360	Escherichia coli O157:H7 EDL933 genome, contig 2 of 3, section 29 of 55	0.6
2289	U01034	Eastern equine encephalomyelitis virus North American antigenic variety nonstructural polyprotein and structural polyprotein genes, complete cds	1.7
2290	AF355103	Pleurotus ostreatus linear mitochondrial plasmid mlp2, partial sequence	5.7
2291	AC000043	Homo sapiens Chromosome 22q13 Cosmid Clone p74a8, complete sequence	0.085
2292	X89398	H.sapiens ung gene for uracil DNA-glycosylase	0.71
2293	AY008264	Yersinia enterocolitica phage shock protein locus, complete sequence	2.2
2294	AJ011320	Drosophila melanogaster Su(P) and anon-73B1 genes and partial o25 gene and Pros26 gene	6.5
2295	XM_040290	Homo sapiens glutamate receptor, ionotropic, AMPA 1 (GRIA1), mRNA	4
2296	AJ293578	Homo sapiens partial MOCS1 gene, exons 2-8	6.3
2297	BC007051	Homo sapiens, clone MGC:12465 IMAGE:3683051, mRNA, complete cds	7E-32
2298	M23103	B.subtilis spoIVCB gene, complete cds	0.2
2299	AF280606	Triticum aestivum omega gliadin pseudogene, complete sequence	0.24
2300	AF266095	Platycnemis pennipes large subunit ribosomal RNA gene, partial sequence; tRNA-Valine gene, complete sequence; and small subunit ribosomal RNA gene, partial sequence; mitochondrial genes for mitochondrial products	0.077
2301	AF114927	Saccharomyces pastorianus CBS1538 small subunit ribosomal RNA gene, mitochondrial gene for mitochondrial RNA, complete sequence	0.23
2302	M68901	P.multocida adenylate cyclase (cya) gene, complete cds	0.23
2303	AJ235878	Amorphophallus kiusiuensis chloroplast atpB-rbcL spacer, isolate PL1	0.23
2304	NM_016158	Homo sapiens erythrocyte transmembrane protein (LOC51145), mRNA	5E-34
2305	Y17254	Euplotes octocarinatus gamma-tubulin 2 micronuclear gene	2.3
2306	X99872	Sulfolobus acidocaldarius pyrB gene	0.033
2307	X81001	H.sapiens HCG II mRNA	0.001
2308	Z80213	Caenorhabditis elegans cosmid C09E9, complete sequence	0.025
2309	AF257022	Salmo salar clone BHMS7-009 microsatellite sequence	0.74
2310	AL138748	Human DNA sequence from clone RP4-732E19 on chromosome Xq21.1-21.33 Contains GSSs, complete sequence [Homo sapiens]	0.21
2311	AJ409108	Entamoeba histolytica rpl27a-2 gene for ribosomal protein large subunit 27a-2, exons 1-2	0.009
2312	U26556	Human ferritin H (FTHL13) pseudogene	0.008

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2313	AF126320	Protoclythia modesta 12S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.26
2314	AL137590	Homo sapiens mRNA; cDNA DKFZp434K0610 (from clone DKFZp434K0610)	2
2315	Z81471	Caenorhabditis elegans cosmid C14B4, complete sequence	0.029
2316	AE001567	Helicobacter pylori, strain J99 section 128 of 132 of the complete genome	0.028
2317	U47913	Tribolium freemani Woot retrotransposon, partial sequence and 3' insertion junction F3(1)	0.081
2318	XM_037521	Homo sapiens centrosomal P4.1-associated protein; uncharacterized bone marrow protein BM032 (BM032), mRNA	2.2
2319	AF269701	Staphylococcus epidermidis strain SR1 clone step.1017g02 genomic sequence	0.7
2320	AF378183	Oryza sativa cultivar Milyang23 cytosolic fructose-1 mRNA, partial cds	6.9
2321	AY019090	Oryza sativa microsatellite MRG1415 containing (AT)X26, genomic sequence	0.085
2322	AL449163	Human DNA sequence from clone RP11-533E16 on chromosome 6, complete sequence [Homo sapiens]	0.00004
2323	M19540	Adenovirus type 41 DNA-binding protein (DBP) gene, exons 2 and 3, 23K protease, complete cds, hexon and 100K protein genes, last exons	0.026
2324	AJ272029	Homo sapiens partial CD30 gene for cytokine receptor CD30 and promoter region	0.003
2325	AF082966	Homo sapiens genomic sequence	0.75
2326	AE002940	Drosophila melanogaster genomic scaffold 142000013385820, complete sequence	0.028
2327	Z54147	Human DNA sequence from cosmid L129H7, Huntington's Disease Region, chromosome 4p16.3 contains CpG island	0.001
2328	D12590	Rattus norvegicus DNA, RFLP marker at locus A403	0.077
2329	XM_035524	Homo sapiens KIAA1201 protein (KIAA1201), mRNA	0.025
2330	XM_003575	Homo sapiens soluble liver antigen/liver pancreas antigen (LOC51091), mRNA	4E-27
2331	BC009503	Homo sapiens, G1 to S phase transition 1, clone MGC:1735 IMAGE:2822947, mRNA, complete cds	0.69
2332	BC005572	Mus musculus, golgi vesicular membrane trafficking protein p18, clone MGC:11601 IMAGE:3967968, mRNA, complete cds	0.78
2333	U39726	Mycoplasma genitalium section 48 of 51 of the complete genome	0.086
2334	XM_039942	Homo sapiens Meis (mouse) homolog 3 (MEIS3), mRNA	0.72
2335	X67506	C.thermocellum ancA gene	0.084
2336	AL117553	Homo sapiens mRNA; cDNA DKFZp564F1171 (from clone DKFZp564F1171)	0.22
2337	AF115574	Pisum sativum pathogenesis-related protein (DRR206-c) gene, complete cds	0.009
2338	Y11874	M.musculus uPA gene, promoter sequence	2.3







Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2406	U26729	Human neprilysin gene, non-coding exon 3	0.92
2407	AE006346	Lactococcus lactis subsp. lactis IL1403 section 108 of 218 of the complete genome	2
2408	AF258783	Felis catus Niemann-Pick type C1 disease protein (NPC1) mRNA, complete cds	0.23
2409	AC007280	Homo sapiens BAC clone RP11-332C7 from 7p11.2-p21, complete sequence	0.39
2410	D13065	Mycoplasma capricolum mcs4 gene for MCS4 RNA	0.062
2411	AF196058	Drosophila pseudoobscura strain PSU606 period (per) gene, intron 4, partial sequence	1.5
2412	AF370534	Arabidopsis thaliana Putative L-ascorbate peroxidase (AT4g09010) mRNA, complete cds	1.8
2413	AF084197	Pongo pygmaeus gamma-aminobutyric acid receptor A5 subunit duplicated gene, 5'UTR region	0.00009
2414	Y17045	Plasmodium falciparum gltS gene	0.063
2415	AL021177	Caenorhabditis elegans cosmid Y1A5A, complete sequence	0.22
2416	AJ238847	Drosophila melanogaster mRNA for drosophila dodeca-satellite protein 1 (DDP-1)	0.22
2417	AB056333	Macaca fascicularis brain cDNA, clone:Qf1A-13486	e-126
2418	AF104821	Danio rerio Hlx2 gene, promoter region	0.056
2419	AF138960	Neospora caninum ycf24 protein (ycf24) gene, partial cds; DNA dependent RNA polymerase beta subunit (rpoB) gene, complete cds; and DNA dependent RNA polymerase beta subunit' (rpoC1) gene, partial cds, plastid genes for plastid products	0.21
2420	AF338712	Emeus crassus mitochondrion, partial genome	1.3
2421	Z82625	R.prowazekii genomic DNA fragment (clone A396F)	0.46
2422	XM_015945	Homo sapiens hypothetical protein FLJ13842 (FLJ13842), mRNA	6E-62
2423	X57010	Human COL2A1 gene for collagen II alpha 1 chain, exons E2-E15	0.63
2424	AF283525	Homo sapiens FIP2 gene, exons 11, 12 and 13	4E-71
2425	AK013530	Mus musculus adult male hippocampus cDNA, RIKEN full-length enriched library, clone:2900012M01, full insert sequence	5.3
2426	D86077	Homo sapiens DNA for cyclin G, partial cds	0.02
2427	X94208	H.sapiens TPR gene (1121bp)	0.19
2428	AF211528	Nicotiana tabacum Avr9/Cf-9 rapidly elicited protein 4 (ACRE4) mRNA, complete cds	0.22
2430	L35688	Homo sapiens (subclone H9 10_d10 from P1 LBL#3) DNA sequence	5E-08
2431	U59711	Cavia porcellus seminal vesicle secretory protein SVP-1/-3/-4 gene, complete cds	0.14
2432	AK023305	Homo sapiens cDNA FLJ13243 fis, clone OVARC1000622	0.002
2433	AB048868	Macaca fascicularis brain cDNA, clone:QnpA-10055	0.044
2434	AF167585	Homo sapiens clone C13 immunoglobulin heavy chain variable region gene, partial cds	0.13
2435	AB013796	Ceratopteris richardii mRNA for CRHB6, complete cds	0.024

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2436	AF071481	Homo sapiens potassium channel (KCNQ3) gene, exon 4	1.9
2437	AF282242	Plasmodium falciparum strain Dd2 chloroquine resistance marker protein gene, complete cds	0.22
2438	AY018307	Oryza sativa microsatellite MRG0632 containing (AT)X14, genomic sequence	0.073
2439	Z74273	S.cerevisiae chromosome IV reading frame ORF YDL225w	0.028
2440	AY021257	Oryza sativa microsatellite MRG3582 containing (TA)X22, genomic sequence	0.018
2441	XM_012164	Homo sapiens STE20-like kinase (JIK), mRNA	0.27
2442	XM_036587	Homo sapiens hypothetical protein DKFZp564B1023 (DKFZP564B1023), mRNA	0.008
2443	AL112743	Botrytis cinerea strain T4 cDNA library under conditions of nitrogen deprivation	0.069
2444	AB020575	Conocephalum conicum psbA gene, complete cds, strain J type	0.074
2445	BC001772	Homo sapiens, Similar to glutaminyl-tRNA synthetase, clone MGC:1525 IMAGE:3543728, mRNA, complete cds	5.5
2446	AF289113	Drosophila montana clone mon 10 transposon Penelope gene sequence	0.064
2447	XM_015806	Homo sapiens hypothetical protein FLJ22621 (FLJ22621), mRNA	0
2448	AY047559	Drosophila melanogaster GH07383 full length cDNA	0.92
2449	XM_052662	Homo sapiens amino-terminal enhancer of split (AES), mRNA	0.59
2450	AL138723	Human DNA sequence from clone RP11-446N1 on chromosome 6, complete sequence [Homo sapiens]	0.008
2451	AF151389	Dermatobia hominis strain Ponta Grossa tRNA-Ile gene, partial sequence; D-loop, complete sequence; and 12S ribosomal RNA, partial sequence; mitochondrial genes for mitochondrial products	0.46
2452	NM_018123	Homo sapiens hypothetical protein FLJ10517 (FLJ10517), mRNA	0.21
2453	XM_042803	Homo sapiens hypothetical gene supported by AL359651 (LOC92091), mRNA	1.9
2454	AE001397	Plasmodium falciparum chromosome 2, section 34 of 73 of the complete sequence	5
2455	AF017996	Mus musculus lysosomal acid lipase gene, promoter region	0.022
2456	XM_028409	Homo sapiens KIAA1871 protein (KIAA1871), mRNA	0.0003
2457	XM_051692	Homo sapiens KIAA1705 protein (KIAA1705), mRNA	0.0003
2458	U00037	Caenorhabditis elegans cosmid T20H4	0.073
2459	AL138748	Human DNA sequence from clone RP4-732E19 on chromosome Xq21.1-21.33 Contains GSSs, complete sequence [Homo sapiens]	0.2
2460	AF052744	Homo sapiens transcriptional repressor p54 gene, promoter region and partial cds	1.8
2461	XM_007006	Homo sapiens KIAA0985 protein (KIAA0985), mRNA	1.7
2462	AF303046	Homo sapiens prostinogen mRNA, complete cds	0.44
2463	AK023562	Homo sapiens cDNA FLJ13500 fis, clone PLACE1004693	e-116





Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2492	AE000813	Methanobacterium thermoautotrophicum from bases 206991 to 217929 (section 19 of 148) of the complete genome	5.5
2493	U67604	Methanococcus jannaschii section 146 of 150 of the complete genome	1
2494	D16253	Pichia canadensis mitochondrial gene for NADH dehydrogenase subunit 5, complete cds	0.006
2495	NC_001530	Human papillomavirus type 47, complete genome	5.4
2496	AF286437	Pseudovenzoaria ochropodis from host Tringa ochropus 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.4
2497	XM_006069	Homo sapiens wee1+ (S. pombe) homolog (WEE1), mRNA	3E-26
2498	AF314019	Rana boylei NADH dehydrogenase subunit I (ND1) gene, partial cds; tRNA-Ile, tRNA-Gln, and tRNA-Met genes, complete sequence; NADH dehydrogenase subunit II (ND2) gene, complete cds; tRNA-Trp, tRNA-Ala, tRNA-Asn, tRNA-Cys, and tRNA-Tyr genes, complete se>	1.4
2499	AJ314911	Dictyostelium discoideum DrnA gene for putative RNaseIII, exons 1-3	0.51
2500	M35228	Vesicular stomatitis virus (strain 86-GM-B) glycoprotein gene, complete cds	0.45
2501	AB021290	Homo sapiens gene for chondromodulin-1, promoter and partial cds	0.72
2502	AJ307807	Astrammina rara partial 18S rRNA gene, isolate A44	3.5
2503	AB005148	Bos taurus mRNA for IL-1 receptor antagonist, complete cds	0.84
2504	AE002687	Drosophila melanogaster genomic scaffold 142000013385743, complete sequence	0.23
2505	AF053496	Caenorhabditis elegans beta chain spectrin homolog Smal (smal) mRNA, complete cds	5.9
2506	X59611	E.coli IncFV plasmid pED208 oriT region with genes traM, traJ and traY (part.)	0.043
2507	XM_051897	Homo sapiens phospholipase A2, group IVA (cytosolic, calcium-dependent) (PLA2G4A), mRNA	3E-66
2508	AJ132890	Bos taurus mRNA for acetyl-CoA-carboxylase	0.18
2509	Y13537	Homo sapiens LAG-3 gene, 3' region	1.7
2510	AE002149	Ureaplasma urealyticum section 50 of 59 of the complete genome	0.027
2511	AF170573	Influenza C virus C/Johannesburg/1/66 segment 5 nucleoprotein (NP) gene, partial cds	2.4
2512	AK016507	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4931439C15, full insert sequence	6.8
2513	AL354664	Human DNA sequence from clone RP11-209D8 on chromosome 6. Contains ESTs and GSSs. Contains part of the COL12A1 gene for collagen type XII, alpha 1, complete sequence [Homo sapiens]	0.082
2514	AB042531	Pisum sativum PsEXT mRNA for xyloglucan endotransglycosylase, complete cds	2E-12

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2515	AL590371	Human DNA sequence from clone RP11-295H23 on chromosome 6, complete sequence [Homo sapiens]	1.5
2516	AF334780	Homo sapiens pregnancy-induced growth inhibitor OKL38 gene, partial cds	0.8
2517	AF362371	Dictyostelium discoideum histidine kinase DhkI (dhkI) gene, complete cds	0.021
2518	NM_012608	Rattus norvegicus Membrane metallo-endopeptidase (neutral endopeptidase/enkephalinase) (Mme), mRNA	2
2519	BC007173	Mus musculus, clone IMAGE:3493127, mRNA, partial cds	5E-53
2520	Y13870	Homo sapiens mRNA containing (CAG)6 repeat, clone CZ-CAG-12	0.06
2521	AF051769	Homo sapiens hyaluronidase-like pseudogene 1 (HYALP1), partial sequence	0.009
2522	AF309947	Dictyostelium discoideum Rac1A (rac1A) gene, complete cds; and unknown gene	0.77
2523	AF128392	Arabidopsis thaliana BAC F15P23	0.22
2524	AK020739	Mus musculus adult male spinal cord cDNA, RIKEN full-length enriched library, clone:A330106L17, full insert sequence	7.2
2525	Y09472	B.taurus gene encoding preprododecapeptide	0.24
2526	D87922	Rat DNA for 3'UTR of skeletal muscle sodium channel, partial sequence	0.4
2527	U70865	Carassius auratus CCK8 precursor, mRNA, complete cds	0.67
2528	AB012624	Homo sapiens FLI1 gene for ERGB transcription factor, intron 4 and partial cds	0.054
2529	AF180492	Crocota crocuta microsatellite Ccr12 sequence	0.083
2530	AL078640	Human DNA sequence from clone 536P6 on chromosome 22. Contains an EST, complete sequence [Homo sapiens]	2E-11
2531	Z63184	H.sapiens CpG island DNA genomic MseI fragment, clone 7a1, forward read cpg7a1.fl1d	6E-22
2532	AL162055	Homo sapiens mRNA; cDNA DKFZp761M2223 (from clone DKFZp761M2223)	0.022
2533	AE001392	Plasmodium falciparum chromosome 2, section 29 of 73 of the complete sequence	6.5
2535	AF202903	Sporopachydermia cereana var. D77-321B internal transcribed spacer 1, 5.8S ribosomal RNA gene and internal transcribed spacer 2, complete sequence; and large subunit ribosomal RNA gene, partial sequence	0.14
2536	U59487	Borrelia burgdorferi P35 antigen protein gene, and 7.5 kDa lipoprotein gene, complete cds	0.029
2537	XM_030999	Homo sapiens KIAA0444 protein (KIAA0444), mRNA	0.012
2538	AF302838	Mus musculus putative tumor suppressor LEU2 gene, exons 1 and 2	0.63
2539	AF125423	Bresiliidae gen. sp. LSP21-1 cytochrome oxidase I gene, partial cds; mitochondrial gene for mitochondrial product	0.66
2540	AP001348	Homo sapiens genomic DNA, chromosome 21q21.1-q21.2 clone:f39G8, LL56-APP region, complete sequence	0.42

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2541	XM_028324	Homo sapiens hypothetical protein FLJ14195; KIAA1714 protein (FLJ14195), mRNA	8E-98
2542	AF238860	Streptococcus mutans mutacin I biosynthesis gene cluster, partial sequence	4.6
2543	AE005391	Escherichia coli O157:H7 EDL933 genome, contig 3 of 3, section 10 of 290	1.6
2544	AK024518	Homo sapiens cDNA: FLJ20865 fis, clone ADKA01850	0.06
2545	AK026595	Homo sapiens cDNA: FLJ22942 fis, clone KAT08170, highly similar to HUMMHBW62 Homo sapiens (clone pMF18) MHC class I HLA-Bw62 mRNA	4E-39
2546	AL449163	Human DNA sequence from clone RP11-533E16 on chromosome 6, complete sequence [Homo sapiens]	2.3
2547	AJ305053	Caprine arthritis-encephalitis virus proviral partial pol gene for Pol protein (reverse transcriptase), isolate CAEV Br/UFRGS-2/C767	0.69
2548	AF283067	Homo sapiens clone 3ptel_c11bt3 sequence	1E-41
2549	AF286431	Bychovskia intermedia from host Charadrius leschenaulti 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.94
2550	L35232	Schizosaccharomyces pombe deoxyribonuclease (exo2) gene, exons 1-3, complete cds	0.93
2551	AF319044	Methanosarcina acetivorans strain C2A MtaF (mtaF) and MtaG (mtaG) genes, complete cds	0.034
2552	XM_018334	Homo sapiens hypothetical protein FLJ22418 (FLJ22418), mRNA	0.013
2553	U35862	Visna virus clone 678 env3.2 envelope polyprotein (env) gene, partial cds	0.17
2554	M20005	N.crassa conidation-specific protein genes con-10 (complete cds.) and con-13 (3' flank)	0.079
2555	AB050531	Macaca fascicularis brain cDNA, clone:QnpA-20907	1.4
2556	AB009693	Mus musculus gene for mafG, complete cds	5.6
2557	U67593	Methanococcus jannaschii section 135 of 150 of the complete genome	0.024
2558	XM_028292	Homo sapiens x 009 protein (MDS009), mRNA	4
2559	U67578	Methanococcus jannaschii section 120 of 150 of the complete genome	1.8
2560	AE001759	Thermotoga maritima section 71 of 136 of the complete genome	1.9
2561	AF363230	Phascolion strombi homeodomain transcription factor Gsx (Gsx) gene, partial cds	0.59
2562	NM_019211	Rattus norvegicus RAS guanyl releasing protein 1 (Rasgrp), mRNA	2.5
2563	U60070	Solanum tuberosum disease resistance homolog (St121) gene, partial cds	0.68
2564	AE006593	Streptococcus pyogenes M1 GAS strain SF370, section 122 of 167 of the complete genome	0.062

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2565	AF147231	Wilkesia gymnoxiphium ASAPETALA1-A (ASAP1-A) gene, exons 3 through 8, partial cds	0.026
2566	AK018656	Mus musculus adult male cecum cDNA, RIKEN full-length enriched library, clone:9130402C12, full insert sequence	0.74
2567	X65859	H.sapiens pseudogene for the low affinity IL-8 receptor	5.4
2568	XM_030855	Homo sapiens similar to KIAA1361 protein (H. sapiens) (LOC90315), mRNA	0.65
2569	XM_031726	Homo sapiens hypothetical protein FLJ12577 (FLJ12577), mRNA	2.1
2570	Z68749	Caenorhabditis elegans cosmid F56H11, complete sequence	0.025
2571	AE000020	Mycoplasma pneumoniae M129 section 60 of 63 of the complete genome	0.17
2572	U63091	Oryctolagus cuniculus beta-globin-like gene cluster locus control region	0.13
2573	BC001339	Homo sapiens, clone IMAGE:3461987, mRNA, partial cds	1E-31
2574	U86962	Dictyostelium discoideum MigA (migA) gene, complete cds	0.9
2575	AY021629	Oryza sativa microsatellite MRG3954 containing (TA)X30, genomic sequence	6.5
2576	AB063077	Macaca fascicularis brain cDNA clone:QtrA-13349, full insert sequence	0.59
2577	XM_044332	Homo sapiens piwi (Drosophila)-like 1 (PIWIL1), mRNA	4E-28
2578	Z97185	S.pombe chromosome I cosmid c16A10	1.5
2579	L43603	Gallus gallus Na <sup>+</sup> /K <sup>+</sup> -ATPase alpha-1 subunit gene, promoter region	0.7
2580	AC016645	Homo sapiens chromosome 5 clone RP11-54A24, complete sequence	0.0001
2581	AE001408	Plasmodium falciparum chromosome 2, section 45 of 73 of the complete sequence	0.25
2582	AF067699	Ischnura prognata cytochrome b (cytb) gene, mitochondrial gene encoding mitochondrial protein, partial cds	0.45
2583	AC026061	Homo sapiens BAC clone RP11-223K9 from Y, complete sequence	2E-15
2584	Y13537	Homo sapiens LAG-3 gene, 3' region	0.24
2585	AE005977	Caulobacter crescentus section 303 of 359 of the complete genome	5.5
2586	U13190	Angiostrongylus cantonensis clone G-2 retrotransposable element AcT-1	0.077
2587	AF364550	Drosophila melanogaster transposon cruiser, complete sequence	0.07
2588	XM_034146	Homo sapiens CD36 antigen (collagen type I receptor, thrombospondin receptor) (CD36), mRNA	0.62
2589	AF014580	Gonioctena viminalis 12S ribosomal RNA gene, mitochondrial gene for mitochondrial RNA, partial sequence	2.1
2590	XM_042643	Homo sapiens hypothetical protein DKFZp434G131 (DKFZP434G131), mRNA	0.68
2591	BC004324	Homo sapiens, ribosomal protein S16, clone MGC:10931 IMAGE:3628799, mRNA, complete cds	0.006

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2592	U42430	Mesocricetus auratus CD36 mRNA, complete cds	0.71
2593	U16137	Saccharomyces cerevisiae Mvp1p (MVP1) gene, complete cds	4.7
2594	AB047954	Macaca fascicularis brain cDNA, clone:QnpA-12630	0.65
2595	AF261697	Homo sapiens clone 17ptel_c39t3 sequence	0.024
2596	AF162598	Drosophila virilis strain w159 zeste protein (z) gene, partial cds	0.063
2597	U40255	Peromyscus sejugis ND3 and ND4L genes, complete cds, tRNA(arg) gene, complete sequence, tRNA(gly) gene, partial sequence, and ND4 gene, partial cds, mitochondrial genes encoding mitochondrial products	0.67
2598	Z63251	H.sapiens CpG island DNA genomic MseI fragment, clone 7h10, forward read cpg7h10.f1a	0.003
2599	U68150	Chelonus sp. 16S mitochondrial ribosomal RNA, mitochondrial gene, partial sequence	0.003
2600	AF138281	Arabidopsis thaliana phospholipase D-gamma-2 mRNA, complete cds	0.071
2601	AF069985	Mus musculus nitrilase homolog 1 (Nit1) gene, alternatively spliced product, complete cds	0.39
2602	M83134	Human germline IgH chain (hv3005) V3-region	0.35
2603	AF275245	Trama rara 12S small subunit ribosomal RNA gene, partial sequence; tRNA-Val gene, complete sequence; and 16S large subunit ribosomal RNA gene, partial sequence; mitochondrial genes for mitochondrial products	0.59
2604	X93302	S.cerevisiae mRNA for Msn5 protein	0.05
2605	AK015536	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930470H18, full insert sequence	0.7
2606	AC087735	Caenorhabditis elegans cosmid Y35H6, complete sequence	0.022
2607	AJ271002	Mus musculus TFF1/pS2 gene for Trefoil Factor1/pS2, exons 1-3	0.73
2608	NM_019664	Mus musculus potassium inwardly-rectifying channel, subfamily J, member 15 (Kcnj15), mRNA	5.8
2609	AL450330	Human DNA sequence from clone RP11-162H13 on chromosome 6 Contains GSSs, complete sequence [Homo sapiens]	0.25
2610	Z24671	H. sapiens (D1S514) DNA segment containing (CA) repeat; clone AFMa151za5; single read	0.007
2611	AE000773	Aquifex aeolicus section 105 of 109 of the complete genome	0.34
2612	X93508	E.histolytica mRNA for 170kDa subunit of galactose/N-acetylgalactosamine binding lectin	0.054
2613	AK003780	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1110018I21, full insert sequence	0.15
2614	L81687	Homo sapiens (subclone 1_c12 from P1 H54) DNA sequence, complete sequence	5.2
2615	M10090	Human myoglobin gene, exon 1	0.13
2616	NC_002670	Bacteriophage bIL311, complete genome	0.061
2617	AB016259	Oryzias latipes gene for cardiac muscle actin, complete cds	0.19
2618	U67578	Methanococcus jannaschii section 120 of 150 of the complete genome	2

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2619	AF186258	Homo sapiens sulfotransferase 1C1 (SULT1C1) gene, exons 2 and 3	0.002
2620	X79777	P.furiosus aor, cmo and ado-hcy genes	6.1
2621	XM_042013	Homo sapiens cell division cycle 34 (CDC34), mRNA	1.5
2622	AB044879	Equus caballus DNA, microsatellite TKY379	0.18
2623	AF117951	Mus musculus lysyl oxidase-like protein 2 mRNA, partial cds	0.015
2624	AF310887	Dictyostelium discoideum RacB (racB) gene, partial cds; and unknown gene	0.17
2625	XM_034353	Homo sapiens KIAA1500 protein (KIAA1500), mRNA	4E-89
2626	AK021859	Homo sapiens cDNA FLJ11797 fis, clone HEMBA1006182	0
2627	AF280894	Pongo pygmaeus clone 3458 chromosome Xq genomic sequence	0.0002
2628	AE001396	Plasmodium falciparum chromosome 2, section 33 of 73 of the complete sequence	0.074
2629	XM_046097	Homo sapiens similar to RIKEN cDNA 2610307I21 gene; hypothetical protein, MNCb-4273 (M. musculus) (LOC92606), mRNA	0.58
2630	X02438	Leishmania tarentolae maxicircle DNA fragment	6.2
2631	AF181582	Bombus terrestris 16S large subunit ribosomal RNA gene, partial sequence	0.2
2632	M34149	S.cerevisiae mitochondrial gap 12 sequence	0.64
2633	AJ400612	Trioxys angelicae partial mitochondrial ATPase 6 gene for ATPase 6 subunit	0.65
2634	AB021290	Homo sapiens gene for chondromodulin-1, promoter and partial cds	0.75
2635	AJ133756	Drosophila melanogaster mRNA for jim zinc finger protein	0.028
2636	AL121589	Human DNA sequence from clone RP5-1140M3 on chromosome 20. Contains GSSs, complete sequence [Homo sapiens]	0.002
2637	XM_040430	Homo sapiens hypothetical protein FLJ10599 (FLJ10599), mRNA	0.24
2638	AB015484	Dugesia japonica mRNA for myosin heavy chain, complete cds	0.2
2639	XM_008161	Homo sapiens hypothetical protein FLJ20345 (FLJ20345), mRNA	0.075
2640	AF024621	Mus musculus gamma-aminobutyric acid receptor rho2 subunit mRNA, complete cds	6.8
2641	L78777	Homo sapiens (subclone 2_b8 from P1 H49) DNA sequence	8E-11
2642	AE001028	Archaeoglobus fulgidus section 79 of 172 of the complete genome	2
2643	AB013796	Ceratopteris richardii mRNA for CRHB6, complete cds	0.028
2644	X03848	Chlorella ellipsoidea chloroplast 16S-23S DNA spacer and ORF1 to ORF4 DNA	0.086
2645	Z21938	B.aphidicola trpE and trpG genes for anthranilate synthase, components I and II	0.74
2646	XM_039805	Homo sapiens hypothetical protein MGC3040 (MGC3040), mRNA	2.1

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2647	AF267217	Candidatus Carsonella ruddii natural-host Pachypsylla celtidis ATP synthase alpha subunit (atpA) gene, partial cds; ATP synthase gamma subunit (atpG) gene, complete cds; and ATP synthase beta subunit (atpD) gene, partial cds	0.71
2648	L39786	Lupinus angustifolius conglutin gamma gene, complete cds	0.084
2649	AB049879	Macaca fascicularis brain cDNA, clone: QnpA-18812	0.74
2650	AE002648	Drosophila melanogaster genomic scaffold 142000013385436, complete sequence	2.1
2651	XM_032228	Homo sapiens hypothetical gene supported by AL080068 (LOC90510), mRNA	2.4
2652	XM_044529	Homo sapiens calcium and integrin binding protein (DNA-dependent protein kinase interacting protein) (SIP2-28), mRNA	0.76
2653	AB035494	Alternaria alternata gene for Akt3-2, complete cds	0.7
2654	AE001381	Plasmodium falciparum chromosome 2, section 18 of 73 of the complete sequence	0.27
2655	XM_013145	Homo sapiens Alport syndrome, mental retardation, midface hypoplasia and elliptocytosis chromosomal region, gene 1 (AMMECR1), mRNA	0.65
2656	NM_007976	Mus musculus coagulation factor V (F5), mRNA	0.077
2657	U47913	Tribolium freemani Woot retrotransposon, partial sequence and 3' insertion junction F3(1)	0.087
2658	D10331	Pneumonia virus of mice mRNA for nonstructural proteins and major nucleocapsid protein, complete cds	0.084
2659	AL390874	Human DNA sequence from clone RP11-238K16 on chromosome 9, complete sequence [Homo sapiens]	0.003
2660	AF020282	Dictyostelium discoideum DG2033 gene, partial cds	2.3
2661	AF393505	Mus musculus potential meiotic DNA repair locus	2.2
2663	U12186	Oryctolagus cuniculus sodium/dicarboxylate cotransporter mRNA, partial cds	2.3
2664	AJ305053	Caprine arthritis-encephalitis virus proviral partial pol gene for Pol protein (reverse transcriptase), isolate CAEV Br/UFRGS-2/C767	0.78
2665	AE006628	Streptococcus pyogenes M1 GAS strain SF370, section 157 of 167 of the complete genome	2.4
2666	L76504	Cronartium arizonicum isolate FSprP-1 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene and internal transcribed spacer 2, complete sequence; and 26S ribosomal RNA gene, partial sequence	0.79
2667	XM_032307	Homo sapiens neuronal thread protein (AD7C-NTP), mRNA	7.2
2668	XM_010126	Homo sapiens stromal antigen 2 (STAG2), mRNA	e-123
2670	AB018798	Plasmodium yoelii gene for P-Type ATPase, complete cds	0.029
2671	Z24358	H. sapiens (D2S377) DNA segment containing (CA) repeat; clone AFM319zf9; single read	0.0004
2672	AE000878	Methanobacterium thermoautotrophicum from bases 976801 to 992232 (section 84 of 148) of the complete genome	6.2

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2673	AL137717	Homo sapiens mRNA; cDNA DKFZp434J1630 (from clone DKFZp434J1630)	2E-31
2674	X61377	S.cerevisiae XYK gene for xylulokinase	2.4
2675	XM_034353	Homo sapiens KIAA1500 protein (KIAA1500), mRNA	4E-89
2676	J01268	Slime mold (D.discoideum) actin 2 (sub 2) pseudogene 5' end	0.085
2677	AF113932	Carios puertoricensis 16S ribosomal RNA, partial sequence	0.079
2678	XM_028752	Homo sapiens ribophorin II (RPN2), mRNA	2.1
2679	BC003254	Mus musculus, Similar to dentatorubral pallidoluyisian atrophy, clone MGC:5758, mRNA, complete cds	0.78
2680	NC_001871	Feline foamy virus, complete genome	0.27
2681	AF188115	Simian immunodeficiency virus Gag protein gene, complete cds; Pol protein gene, partial cds; Vif protein (Vif), Vpr protein (Vpr), truncated Tat protein (Tat), Rev protein (Rev), Env protein (Env), and Nef protein (Nef) genes, complete cds; and long te>	0.77
2682	AE007382	Streptococcus pneumoniae section 65 of 194 of the complete genome	0.73
2683	AF190869	Gorilla gorilla X chromosome clone 1, partial sequence	0.082
2685	AK004792	Mus musculus adult male lung cDNA, RIKEN full-length enriched library, clone:1200015I07, full insert sequence	1E-15
2686	AE001387	Plasmodium falciparum chromosome 2, section 24 of 73 of the complete sequence	0.063
2687	AB051438	Homo sapiens mRNA for KIAA1651 protein, partial cds	e-141
2688	AY047509	Drosophila melanogaster GH01721 full length cDNA	0.21
2689	AK016678	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4933405P16, full insert sequence	0.21
2690	Z19055	B.aphidicola tryptophan operon	0.077
2691	XM_047737	Homo sapiens ubiquitin specific protease 25 (USP25), mRNA	9E-56
2692	U13190	Angiostrongylus cantonensis clone G-2 retrotransposable element AcT-1	0.26
2693	X00858	H.sapiens DHFR gene, exon 5	0.27
2695	AK026620	Homo sapiens cDNA: FLJ22967 fis, clone KAT10573, highly similar to AF151892 Homo sapiens CGI-134 protein mRNA	0.077
2696	D87001	Homo sapiens immunoglobulin lambda gene locus DNA, clone:47H9 downstream contig	0.25
2697	U93276	Mus musculus glucokinase gene, intron 1 and hypersensitive site VII region	0.73
2698	AE006705	Sulfolobus solfataricus section 64 of 272 of the complete genome	1.2
2699	AE001423	Plasmodium falciparum chromosome 2, section 60 of 73 of the complete sequence	2.2
2700	X76799	H.sapiens genomic DNA dinucleotide (AC) repeat clone a10	6.4
2701	Z93324	L.major DNA containing open reading frame	0.23
2702	AJ251163	Dictyostelium discoideum dymB gene for dynamin B homologue	6.3
2703	AK020562	Mus musculus adult male urinary bladder cDNA, RIKEN full-length enriched library, clone:9530018H14, full insert sequence	0.76



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2704	AF116983	Stenomeson variegatum ribulose 1,5-bisphosphate carboxylase large subunit (rbcL) gene, partial cds; chloroplast gene for chloroplast product	6.4
2706	XM_051524	Homo sapiens archain 1 (ARCN1), mRNA	0.66
2707	AF351620	Homo sapiens lipocalin-1 interacting membrane receptor (LIMR) gene, complete cds	0.084
2708	AF180472	Homo sapiens aryl-hydrocarbon interacting protein-like 1 (AIPL1) gene, complete cds	5.9
2709	AY008848	Ictalurus punctatus clone Icpu-UA/3 MHC class I antigen gene, complete cds	0.025
2710	NM_016862	Mus musculus vesicle transport through interaction with t-SNAREs 1 homolog (Vti1-pending), mRNA	0.65
2711	AE004023	Xylella fastidiosa 9a5c, section 169 of 229 of the complete genome	3.9
2712	XM_037239	Homo sapiens actin, beta (ACTB), mRNA	1E-49
2713	AE001404	Plasmodium falciparum chromosome 2, section 41 of 73 of the complete sequence	0.7
2714	XM_050114	Homo sapiens TERA protein (TERA), mRNA	5.9
2715	AK001082	Homo sapiens cDNA FLJ10220 fis, clone HEMBA1007342	0.56
2716	AF380155	Ctenopharyngodon idella c-Fos (c-fos) mRNA, complete cds	3.2
2717	AB027352	Cordyceps sp. 97003 mitochondrial DNA for small subunit ribosomal RNA	0.47
2718	AB033220	Lactococcus lactis gadB gene, untranslated by upstream frameshift, strain:01-1	1.9
2719	U01841	Mus musculus B6/CBAF1J peroxisome proliferator activated receptor gamma (ppar) mRNA, complete cds	0.009
2720	AL023814	Caenorhabditis elegans cosmid H08J19, complete sequence	0.021
2721	XM_047737	Homo sapiens ubiquitin specific protease 25 (USP25), mRNA	5E-56
2723	AF389403	Takifugu rubripes pericentriolar material 1 protein (PCM1) mRNA, complete cds	1.9
2724	AE006369	Lactococcus lactis subsp. lactis IL1403 section 131 of 218 of the complete genome	0.21
2726	AF367865	Mesembryanthemum crystallinum potassium transporter HAK2p (HAK2) mRNA, complete cds	0.39
2727	XM_043040	Homo sapiens hypothetical protein MGC2718 (MGC2718), mRNA	1E-09
2728	AE001392	Plasmodium falciparum chromosome 2, section 29 of 73 of the complete sequence	0.0000004
2729	U31371	Bovine herpesvirus 4 1.7-kb late RNA (L1.7) mRNA, repeat region	1.9
2730	AF195728	Libellula flavida 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.025
2731	AK024658	Homo sapiens cDNA: FLJ21005 fis, clone CAE03745	0.64
2732	AK025613	Homo sapiens cDNA: FLJ21960 fis, clone HEP05517	1.4
2733	L11016	Homo sapiens lymphotoxin-beta gene, complete cds	0.0001
2734	Y14422	M.musculus DNA for retinal protein	1.2

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2735	X83757	E.histolytica 170 kDa lectin gene, 5' region	0.64
2736	AK017535	Mus musculus 8 days embryo cDNA, RIKEN full-length enriched library, clone:5730409K12, full insert sequence	0.64
2737	AY047509	Drosophila melanogaster GH01721 full length cDNA	0.21
2738	AB019433	Homo sapiens gene for T-cell nuclear receptor NOT (Nurr1), complete cds	0.024
2739	U58731	Caenorhabditis elegans cosmid W09B12	0.61
2740	U35620	Nicotiana tabacum ribulose-1,5 biphosphate carboxylase/oxygenase large subunit N-methyltransferase (rbcm1T) mRNA, complete cds	1
2741	AF181720	Homo sapiens RU2AS (RU2) gene, complete cds; and RU2S (RU2) gene, partial cds	5.4
2742	AE006560	Streptococcus pyogenes M1 GAS strain SF370, section 89 of 167 of the complete genome	0.24
2743	AF346287	Goniocotena pallida haplotype 61 mitochondrial control region, partial sequence	5
2744	L05617	Dictyostelium purpureum (Dpp5) DNA sequence, repeat region	0.021
2745	AK021104	Mus musculus adult male corpus striatum cDNA, RIKEN full-length enriched library, clone:C030026M15, full insert sequence	1
2746	L08174	Romanomermis culicivorax mitochondrial NADH dehydrogenase subunits 6 and 3 (ND6, ND3) cytochrome P450-like protein genes, complete CDS	1.6
2747	AB006130	Mesocricetus auratus mRNA for haptoglobin, complete cds	0.24
2748	AK001448	Homo sapiens cDNA FLJ10586 fis, clone NT2RP2003986	0.0008
2749	M95192	Drosophila melanogaster hairless protein (H) mRNA, complete cds	3.6
2750	X53426	Nicotiana sylvestris NySS41 and partial NySS42 genes for RUBISCO small subunit (SSU)	0.63
2751	NC_001336	Methanobacterium thermoautotrophicum plasmid pFV1, complete sequence	0.074
2752	NM_011595	Mus musculus tissue inhibitor of metalloproteinase 3 (Timp3), mRNA	0.012
2753	AF299340	Homo sapiens CD164 gene, complete cds, alternatively spliced	0.074
2754	AL121765	S.pombe chromosome I cosmid c1786	0.025
2755	U27078	Trichaptum abietinum mitochondrial small subunit ribosomal RNA, mitochondrial gene, partial sequence	0.44
2756	AF279292	Mycoplasma hyopneumoniae strain ISU 232 YX1 (yx1) gene, partial cds; p110 membrane protein precursor, gene, complete cds; and YX2 (yx2) gene, partial cds	0.024
2757	AL590371	Human DNA sequence from clone RP11-295H23 on chromosome 6, complete sequence [Homo sapiens]	0.61
2758	XM_041904	Homo sapiens cathepsin S (CTSS), mRNA	6
2759	D63170	Gallus domesticus DNA for the terminal heterochromatic region of the Z chromosome	1.4
2760	NM_023197	Mus musculus RIKEN cDNA 2310008H09 gene (2310008H09Rik), mRNA	0.025

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2761	BC007150	Mus musculus, dystroglycan 1, clone MGC:6651 IMAGE:3496914, mRNA, complete cds	0.18
2762	BC000480	Homo sapiens, amyloid beta precursor protein-binding protein 1, 59kD, clone MGC:8690 IMAGE:2964638, mRNA, complete cds	8E-65
2764	XM_036683	Homo sapiens a disintegrin-like and metalloprotease (reprolysin type) with thrombospondin type 1 motif, 3 (ADAMTS3), mRNA	3E-46
2765	AJ005581	Encephalitozoon cuniculi complete rDNA unit (16S, 5.8S, 23S, ITS1 and IGS)	0.42
2766	AE005227	Escherichia coli O157:H7 EDL933 genome, contig 1 of 3, section 51 of 155	0.007
2767	XM_048172	Homo sapiens hypothetical protein DKFZp434F1017 (DKFZP434F1017), mRNA	3.8
2769	AF129087	Medicago sativa mitogen-activated protein kinase homologue (TDY1) gene, complete cds	0.66
2770	XM_008176	Homo sapiens MYB binding protein (P160) 1a (MYBBP1A), mRNA	5.2
2771	AC024865	Caenorhabditis elegans cosmid Y74C10AL, complete sequence	0.039
2772	XM_036164	Homo sapiens RAN binding protein 2 (RANBP2), mRNA	1E-59
2773	AL023816	Caenorhabditis elegans cosmid T05G11, complete sequence	0.64
2774	XM_004980	Homo sapiens cystic fibrosis transmembrane conductance regulator, ATP-binding cassette (sub-family C, member 7) (CFTR), mRNA	0.016
2775	XM_032209	Homo sapiens hypothetical gene supported by AK023337 (LOC90509), mRNA	0.018
2776	Z69650	Human DNA sequence from cosmid L69F7B, Huntington's Disease Region, chromosome 4p16.3 contains Huntington Disease (HD) gene	0.64
2777	AJ305053	Caprine arthritis-encephalitis virus proviral partial pol gene for Pol protein (reverse transcriptase), isolate CAEV Br/UFRGS-2/C767	0.46
2778	AK017531	Mus musculus 8 days embryo cDNA, RIKEN full-length enriched library, clone:5730409F18, full insert sequence	0.67
2779	AF028784	Rattus norvegicus glial fibrillary acidic proteins alpha and delta (GFAP) gene, alternatively spliced products, complete cds	0.11
2780	AF101236	Naja sputatrix neutral phospholipase A2 (NPLA2) gene, complete cds	0.054
2781	U71280	Mesocricetus auratus cytochrome P450 aldosterone synthase (CYP11B2) gene, complete cds	0.023
2782	X80007	P.sativum gene for chalcone synthase	0.15
2783	AF171040	Anopheles funestus clone AF10 microsatellite sequence	2
2784	XM_011464	Homo sapiens hypothetical protein FLJ20170 (FLJ20170), mRNA	0.21
2785	Y18929	Homo sapiens wild type AF-4/FEL gene, part of intron 3, individual PB	3
2786	L81581	Homo sapiens (subclone 4_a4 from P1 H11) DNA sequence, complete sequence	0.024

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2787	NM_024381	Rattus norvegicus ATP-stimulated glucocorticoid-receptor translocaton promoter (Gyk), mRNA	0.17
2788	X72688	L.stagnalis LS-rab1 mRNA	0.2
2789	XM_033154	Homo sapiens syntrophin, gamma 1 (SNTG1), mRNA	0.021
2790	AB017186	Clostridium perfringens genes of hem operon, complete cds	1.4
2791	U47416	Solanum allophyllum NADH dehydrogenase subunit (ndhF) gene, chloroplast gene encoding chloroplast protein, partial cds	0.2
2792	M21258	Human small nuclear ribonucleoprotein (snRNP) E gene, exon 5 and Alu repeats copy N and O	0.051
2793	L05004	Staphylococcus aureus dehydroquinase synthase (aroB) gene, 3' end cds; 3-phosphoshikimate-1-carboxyvinyltransferase (aroA) gene, complete cds; ORF3, complete cds	0.21
2794	AF302005	Uma scoparia isolate ROM3406 cytochrome b gene, partial cds; mitochondrial gene for mitochondrial product	2
2795	AF288209	Homo sapiens beta galactosyltransferase bGalT7 mRNA, complete cds	2
2796	AB048897	Macaca fascicularis brain cDNA, clone:QnpA-17253	1.7
2797	AK025054	Homo sapiens cDNA: FLJ21401 fis, clone COL03678	0.071
2798	U39886	Bos taurus Y-chromosome specific genomic sequence	0.002
2799	AJ277649	Caenorhabditis elegans mRNA for CHE-14 protein	0.6
2800	AF058764	Xenopus laevis bone morphogenetic protein 4 (BMP-4) gene, complete cds	0.56
2801	AE001398	Plasmodium falciparum chromosome 2, section 35 of 73 of the complete sequence	0.15
2802	AF079456	O'nyong-nyong virus strain SG650, complete genome	0.003
2803	AF087913	Human endogenous retrovirus HERV-P-T47D	6
2804	AB005053	Anomala cuprea entomopoxvirus gene for spheroidin, complete cds	1.8
2805	AF027656	Homo sapiens cholesteryl ester transfer protein gene, promoter region	0.004
2806	XM_031478	Homo sapiens vacuolar protein sorting protein 18 (VPS18), mRNA	1.7
2807	XM_001718	Homo sapiens KIAA0475 gene product (KIAA0475), mRNA	0.023
2808	L21906	Human troponin I, slow-twitch isoform (TNNI1) gene, exons 2-4	1.5
2809	NM_006633	Homo sapiens IQ motif containing GTPase activating protein 2 (IQGAP2), mRNA	5E-39
2810	AE001541	Helicobacter pylori, strain J99 section 102 of 132 of the complete genome	0.2
2811	M63577	S.cerevisiae SFP1 gene, complete cds	0.023
2812	XM_004980	Homo sapiens cystic fibrosis transmembrane conductance regulator, ATP-binding cassette (sub-family C, member 7) (CFTR), mRNA	0.013
2813	AJ305053	Caprine arthritis-encephalitis virus proviral partial pol gene for Pol protein (reverse transcriptase), isolate CAEV Br/UFRGS-2/C767	0.5



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2841	AF366200	Diadema antillarum isolate dmid3 tRNA-Lys gene, partial sequence; ATPase 8 gene, complete cds; and ATPase 6 gene, partial cds; mitochondrial genes for mitochondrial products	6.1
2842	AJ237688	Canis familiaris polymorphic marker clone XA07	0.53
2843	AF244979	Mus musculus galectin-11 mRNA, variant b, complete cds, alternatively spliced	0.25
2844	AL390174	Homo sapiens mRNA; cDNA DKFZp547J184 (from clone DKFZp547J184)	0.21
2845	U80230	Human clotting factor VIII gene, junction regions of the deletion of exons 15 through 20 and LINE-1-like repeat region	2E-09
2846	U31086	Gallus gallus neuron-glia adhesion molecule (Ng-CAM) gene, partial cds, exons 1 and 2	0.064
2847	D16685	Rice gene for lactate dehydrogenase, complete cds	0.003
2848	AB007459	Chara corallina ccm1 mRNA for myosin, complete cds	0.067
2849	U63328	Pissodes strobi vitellogenin (Vtg) mRNA, partial cds	0.68
2850	U50727	Human p40-phox (NCF4) gene, exon 8	0.023
2851	NM_017190	Rattus norvegicus Myelin-associated glycoprotein (Mag), mRNA	6.5
2852	AF361105	Homo sapiens interleukin 9 (IL9) gene, complete cds	0.37
2853	AP001416	Homo sapiens genomic DNA, chromosome 21q22.2, clone:D34, LB7T-ERG region, complete sequence	1.5
2854	Y16771	Phylica pubescens chloroplast partial trnL gene & intergenic spacer	0.6
2855	AE005624	Escherichia coli O157:H7 EDL933 genome, contig 3 of 3, section 243 of 290	0.075
2856	AF159568	Microbotryum violaceum ammonium transporter MEPa (MEPa) mRNA, complete cds	0.7
2857	M34149	S.cerevisiae mitochondrial gap 12 sequence	0.51
2858	D16541	Chicken DNA for connectin(titin), partial sequence	0.064
2859	AC007039	Homo sapiens BAC clone RP11-263A15 from Y, complete sequence	e-149
2860	AJ294714	Pichia anomala leu2 gene for beta-isopropylmalate dehydrogenase	0.056
2861	XM_051160	Homo sapiens KIAA1463 protein (KIAA1463), mRNA	0.22
2862	XM_031527	Homo sapiens leucine-rich PPR-motif containing (LRPPRC), mRNA	0.0003
2863	AF323443	Plasmodium yoelii yoelii clone 11 235 kDa rhoptry protein (IIa.2) gene, partial cds	0.02
2864	Y14324	Staphylococcus aureus partial ORF292 and ORF271, ORF331 and ORF314	0.62
2865	BC007568	Homo sapiens, clone IMAGE:3028427, mRNA, partial cds	0.16
2866	U67518	Methanococcus jannaschii section 60 of 150 of the complete genome	0.67
2867	AJ133742	Sus scrofa ryr3 gene (partial), exon 2	0.68
2868	AF116520	Mus musculus periplakin (ppl) gene, exons 2-14	0.083
2869	D38044	Human gene for Ah-receptor, exon 7-9	0.25

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2870	XM_010162	Homo sapiens methyl CpG binding protein 2 (Rett syndrome) (MECP2), mRNA	1.7
2871	AF303030	Lavatera phoenicea isolate 804 internal transcribed spacer 1, partial sequence, 5.8S ribosomal RNA, complete sequence and internal transcribed spacer 2, partial sequence	0.01
2872	AE002274	Chlamydia muridarum, section 6 of 85 of the complete genome	1.8
2873	AB062056	Homo sapiens p53DINP1 gene for p53DINP1a, p53DINP1b, complete cds, alternative splicing	8E-26
2874	AF150965	Bacillus anthracis plasmid pXO1 resolvase X (resX) and transposase X (traX) genes, complete cds	1.6
2875	U90292	Human chromosome 16 duplicated adrenoleukodystrophy (ALD) gene, 5' breakpoint sequence	3E-41
2876	U75361	Rattus norvegicus Munc13-3 mRNA, complete cds	3E-18
2877	AF006686	Plecotus auritus clone Paur06 microsatellite sequence	5E-10
2878	NM_009694	Mus musculus apolipoprotein B editing complex 2 (Apobec2), mRNA	0.00009
2879	AF315316	Vigna radiata ACC oxidase gene, complete cds	0.003
2880	AE005714	Caulobacter crescentus section 40 of 359 of the complete genome	1.5
2881	AL451135	Human DNA sequence from clone RP11-45G20 on chromosome 6, complete sequence [Homo sapiens]	1.9
2882	AF315316	Vigna radiata ACC oxidase gene, complete cds	0.003
2883	NM_009694	Mus musculus apolipoprotein B editing complex 2 (Apobec2), mRNA	0.00008
2884	AB047932	Macaca fascicularis brain cDNA, clone:QnpA-10158	0.16
2885	U18671	Human Stat2 gene, complete cds	0.23
2886	AB040670	Bombyx mori copg2 mRNA for nonclathrin coat protein gamma2-COP, partial cds	0.074
2887	AK017987	Mus musculus adult male thymus cDNA, RIKEN full-length enriched library, clone:5830443J22, full insert sequence	0.035
2889	AE001419	Plasmodium falciparum chromosome 2, section 56 of 73 of the complete sequence	0.12
2890	AF275225	Eriosoma lanigerum 12S small subunit ribosomal RNA gene, partial sequence; tRNA-Val gene, complete sequence; and 16S large subunit ribosomal RNA gene, partial sequence; mitochondrial genes for mitochondrial products	0.35
2891	AF372971	Arabidopsis thaliana AT3g23580/MDB19_7 mRNA, complete cds	0.53
2892	AJ404851	Homo sapiens partial ARNT gene for aryl hydrocarbon receptor nuclear translocator, exon 4	3.7
2893	AJ012380	Fugu rubripes partial rara gene, exons 4-10	1.4
2894	AB064593	Escherichia coli icdA gene for isocitrate dehydrogenase, complete cds	0.027
2895	AF182444	Drosophila melanogaster disco-interacting protein (dip1) gene, alternatively spliced products, complete cds; and TO42 gene, partial cds	1.6

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2896	AY020760	Oryza sativa microsatellite MRG3085 containing (TA)X13, closest to marker R2976, genomic sequence	0.007
2897	AE006318	Lactococcus lactis subsp. lactis IL1403 section 80 of 218 of the complete genome	0.53
2898	X01973	Mouse gene for interferon alpha 4 (Mu IFN-alpha 4)	3.9
2899	AF176677	Candida albicans gamma-glutamylcysteine synthetase (GCS1) gene, complete cds	0.07
2900	AF109009	Prolaupala kukui clone 1092 transposon Lau1 sequence	3.6
2901	D49739	Chicken mRNA for leucine zipper protein, complete cds	2.4
2902	U34610	Mus musculus alpha-1(XVIII) collagen (COL18A1) gene, exon 6 and 7	0.006
2903	AK026763	Homo sapiens cDNA: FLJ23110 fis, clone LNG07802	0.34
2904	AF343914	Campylobacter jejuni NCTC 11828 LOS biosynthesis cluster, partial sequence	0.024
2905	AE002722	Drosophila melanogaster genomic scaffold 142000013385665, complete sequence	0.007
2906	XM_027242	Homo sapiens KIAA0805 protein (KIAA0805), mRNA	1.1
2907	Y15082	Homo sapiens p14.5 gene, partial exon 1 and promoter; hPOPI gene exon 1 and promoter and bidirectional promoter region	0.67
2908	XM_009536	Homo sapiens GTPase GES; REM protein (REM), mRNA	5.9
2909	XM_036351	Homo sapiens nuclear transcription factor Y, alpha (NFYA), mRNA	1E-32
2910	AB037851	Homo sapiens mRNA for KIAA1430 protein, partial cds	0.58
2911	XM_002943	Homo sapiens similar to PRO0327 protein (H. sapiens) (LOC92570), mRNA	2.4
2912	AF069179	Lysiphlebus cardui NADH dehydrogenase 1 gene, mitochondrial gene encoding mitochondrial protein, partial cds	0.008
2913	AJ243545	Arabidopsis thaliana gene for 67 kD chloroplastic RNA-binding protein, P67	0.54
2914	AJ295795	Isolepis producta chloroplast trnL gene intron	2.2
2915	AJ311050	Medicago sativa pr10.2 gene for class 10 PR protein	0.26
2916	AK021512	Homo sapiens cDNA FLJ11450 fis, clone HEMBA1001432	0.25
2917	AK002979	Mus musculus adult male brain cDNA, RIKEN full-length enriched library, clone:0710001P07, full insert sequence	0.023
2918	AY007505	Streptococcus mitis phage SM1 PblA (pblA) and PblB (pblB) genes, complete cds; lysin (lys) gene, partial cds; and unknown genes	0.026
2919	AK022043	Homo sapiens cDNA FLJ11981 fis, clone HEMBB1001317	0.69
2920	AF162969	Mycoplasma capricolum capricolum strain 960038 fructose biphosphate aldolase gene, partial cds	0.064
2921	XM_051364	Homo sapiens similar to immediate early protein (H. sapiens) (LOC93434), mRNA	0.086
2922	XM_027642	Homo sapiens KIAA0349 protein (KIAA0349), mRNA	0.24
2923	XM_045819	Homo sapiens cofilin 2 (muscle) (CFL2), mRNA	1.9
2924	AF146362	Drosophila melanogaster Huntington disease protein homolog (Hsap\HD) mRNA, complete cds	0.23



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2925	U91993	<i>Solanum chacoense</i> transposable element Sch2, sequence	0.027
2926	AK021782	<i>Homo sapiens</i> cDNA FLJ11720 fis, clone HEMBA1005293	2.3
2927	AF274444	<i>Carsonella ruddii</i> ribosomal protein L11 (rpL11), ribosomal protein L1 (rpL1), ribosomal protein L10 (rpL10), ribosomal protein L7/L12 (rpL7/L12), beta subunit of RNA polymerase (rpoB), beta-prime subunit of RNA polymerase (rpoC), ribosomal protein S12 >	2
2928	AF003047	Simian immunodeficiency virus isolate P2S1 patient P2, gp120 (env) gene, partial cds	0.064
2929	AK022102	<i>Homo sapiens</i> cDNA FLJ12040 fis, clone HEMBB1001944	0
2930	AC004239	<i>Homo sapiens</i> BAC clone CTB-34F8 from 7p15-p21, complete sequence	0.001
2931	AF104819	<i>Strumaria truncata</i> trnL gene, partial sequence; chloroplast gene for chloroplast product	0.25
2932	AF171916	<i>Trimeresurus flavomaculatus</i> cytochrome b (cytb) gene, partial cds; mitochondrial gene for mitochondrial product	0.21
2933	AJ011596	<i>Homo sapiens</i> trapped 3' terminal exon, clone B2E8	0.0003
2934	AF269137	<i>Homo sapiens</i> GABAA receptor gamma 3 subunit (GABRG3) gene, exon 3	0.8
2935	AB030586	<i>Arabidopsis thaliana</i> AATL1 gene for amino acid transporter-like protein 1, complete cds	1.9
2936	L76484	<i>Cronartium appalachianum</i> isolate Ca-1 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene and internal transcribed spacer 2, complete sequence; and 26S ribosomal RNA gene, partial sequence	0.71
2937	AF366570	<i>Trypanosoma congolense</i> calreticulin mRNA, complete cds	0.084
2938	NM_004682	<i>Homo sapiens</i> PC4 and SFRS1 interacting protein 1 (PSIP1), mRNA	2
2939	AL050219	<i>Homo sapiens</i> mRNA; cDNA DKFZp586J1623 (from clone DKFZp586J1623)	1.8
2940	AF275687	<i>Plasmodium falciparum</i> knob-associated histidine-rich protein (KAHRP) gene, complete cds	0.009
2941	AF142701	<i>Vigna umbellata</i> maturase-like protein (matK) gene, complete cds; chloroplast gene for chloroplast product	0.56
2942	AF226775	<i>Mitthyridium undulatum</i> small ribosomal protein 4 (rps4) gene, partial cds; chloroplast gene for chloroplast product	0.073
2943	XM_034735	<i>Homo sapiens</i> similar to hypothetical protein FLJ21463 (H. sapiens) (LOC90883), mRNA	0
2944	AK017899	<i>Mus musculus</i> adult male thymus cDNA, RIKEN full-length enriched library, clone:5830405M20, full insert sequence	0.28
2945	Y10159	<i>D.discoideum</i> racGAP gene	6.2
2946	XM_011562	<i>Homo sapiens</i> hypothetical gene supported by NM_000181 (LOC92707), mRNA	0.025
2947	AF191257	<i>Trichuris trichiura</i> microsatellite ttstr14	0.078
2948	Y08449	<i>E.caballus</i> DNA segment containing CA microsatellite VHL137	0.00003

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2949	AK003959	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1110029G12, full insert sequence	0.077
2950	NM_012779	Rattus norvegicus Aquaporin 5 (Aqp5), mRNA	2.2
2951	AJ404295	Borealis schlumbergeri 18S rRNA gene, isolate 191	0.25
2952	AE001365	Plasmodium falciparum chromosome 2, section 2 of 73 of the complete sequence	0.49
2954	Y13434	Ovis aries mRNA for thyroid stimulating hormone receptor	1.8
2955	AB026906	Homo sapiens SDHD gene for small subunit of cytochrome b of succinate dehydrogenase, complete cds	0.001
2956	BC010367	Homo sapiens, hypothetical protein FLJ20534, clone MGC:13432 IMAGE:4334172, mRNA, complete cds	4
2957	AJ251957	Ciona intestinalis mRNA for nuclear lamin (lamin L2 gene)	2
2958	AK016695	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4933406J08, full insert sequence	2E-14
2959	Z13985	M.musculus control region sequence DNA	0.072
2960	AL591590	Human DNA sequence from clone CTD-2053G21 on chromosome Xq13.3-21.2, complete sequence [Homo sapiens]	0.007
2961	AB002807	Glycine max DNA for nodulin 35, partial cds	0.24
2962	AE001399	Plasmodium falciparum chromosome 2, section 36 of 73 of the complete sequence	0.003
2963	AF298224	Homo sapiens RPCI-II 289E13 CD21 gene, partial cds	0.00001
2964	XM_018458	Homo sapiens similar to hypothetical protein PRO2822 (H. sapiens) (LOC93537), mRNA	0.21
2965	AF288778	Homo sapiens erythroleukemia translocation breakpoint region	0.068
2966	AF073994	Drosophila melanogaster gamma-tubulin (GTUB) gene, partial cds; and recombination repair protein 1 (RRP1) and thymidylate synthase (TS) genes, complete cds; and RNA-binding protein (RBP9) gene, partial sequence	0.14
2967	AL121822	Human DNA sequence from clone 346P11 on chromosome Xq21.2-21.33, complete sequence [Homo sapiens]	0.0000001
2968	U31284	Mesotaenium caldarium clone mesphy1b phytochrome gene, complete cds	0.59
2969	XM_008806	Homo sapiens mitogen-activated protein kinase 4 (MAPK4), mRNA	1.8
2970	XM_027307	Homo sapiens KIAA1209 protein (KIAA1209), mRNA	0.001
2971	AF179711	Hylobates sp. RH50 glycoprotein (RHAG) gene, intron 9	0.56
2972	BC007133	Mus musculus, apoptosis inhibitory protein 5, clone MGC:5830 IMAGE:3594358, mRNA, complete cds	5.4
2973	AF282018	Homo sapiens clone 15qtel_ctg0082_c262bt3_c290bt3 sequence	2E-53
2974	AE004790	Pseudomonas aeruginosa PA01, section 351 of 529 of the complete genome	1.8
2975	XM_003050	Homo sapiens similar to seven transmembrane domain orphan receptor (H. sapiens) (LOC63108), mRNA	0.27
2976	AF353728	Mus musculus myo-inositol monophosphatase 1 (Impa1) gene, exons 1 through 7	1.2

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
2977	AK005535	Mus musculus adult female placenta cDNA, RIKEN full-length enriched library, clone:1600025H15, full insert sequence	0.55
2978	AJ002479	Medicago truncatula ENBP1 gene, exons 1 to 12	0.64
2979	AF154836	Homo sapiens Ras-like GTP-binding protein (RAB27A) gene, exons 1b and 2	0.000001
2981	AF260819	Plasmodium falciparum CG1 protein gene, complete cds	0.73
2982	AE006714	Sulfolobus solfataricus section 73 of 272 of the complete genome	0.02
2984	NM_004114	Homo sapiens fibroblast growth factor 13 (FGF13), mRNA	6.7
2985	AF155369	Buthus martensii putative potassium ion channel blocker TXKs1 mRNA, complete cds	0.72
2986	XM_041836	Homo sapiens similar to MHC class I region ORF (H. sapiens) (LOC91955), mRNA	0.18
2987	AF153668	Microcephala discoidea NADH dehydrogenase (ndhF) gene, partial cds; chloroplast gene for chloroplast product	1.7
2988	AF216211	Drosophila buzzatii alpha-esterase 3 (aE3) and alpha-esterase 4b (aE4b) genes, complete cds	0.073
2989	AF352244	Dermatophagoides farinae paramyosin-like allergen mRNA, partial cds	0.025
2990	XM_007409	Homo sapiens alkylation repair, alkB homolog (ABH), mRNA	0.21
2991	AF005779	Sus scrofa neuropeptide Y Y1 receptor mRNA, complete cds	0.66
2992	AF264749	Arabidopsis thaliana hydrophobic protein RC12B (RC12B) and hydrophobic protein RC12A (RC12A) genes, complete cds	0.022
2994	AL162033	Homo sapiens mRNA; cDNA DKFZp434F1872 (from clone DKFZp434F1872)	0.69
2995	AK013593	Mus musculus adult male hippocampus cDNA, RIKEN full-length enriched library, clone:2900024O09, full insert sequence	0.7
2996	AF222716	Plasmodium falciparum clone 3D7 unconventional myosin PfM-B gene, complete cds	0.027
2997	AK006599	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:1700034J06, full insert sequence	2.2
2998	AF010509	Plasmodium falciparum microsatellite TA39 sequence	0.001
2999	AF070566	Homo sapiens clones 24611 and 24705 mRNA sequence	0.000003
3000	AF181676	Homo sapiens clone 204I12 polymorphic microsatellite sequence	0.074
3001	M17169	Chinese hamster glucose-regulated protein GRP78 mRNA, complete cds	0.008
3002	NM_031236	Rattus norvegicus alpha 1,2-fucosyltransferase (Fut1), mRNA	0.69
3003	XM_016321	Homo sapiens region containing TBX3-iso protein; T-box 3 (ulnar mammary syndrome) (LOC82353), mRNA	0.73
3004	BC005379	Homo sapiens, Similar to plasminogen, clone MGC:12496 IMAGE:3934860, mRNA, complete cds	0.000001
3005	AF276176	Scaphirhynchus platyrhynchus microsatellite Spl-107 sequence	0.009
3006	XM_010048	Homo sapiens like mouse brain protein E46 (E46L), mRNA	0.47
3007	NC_001807	Human mitochondrion, complete genome	1E-10
3008	AE006103	Pasteurella multocida PM70 section 70 of 204 of the complete genome	0.4

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3009	AE006266	Lactococcus lactis subsp. lactis IL1403 section 28 of 218 of the complete genome	0.2
3010	AF022812	Dehalospirillum multivorans GTP cyclohydrolase II (ribA) gene, partial cds; and 3,4-dihydroxy-2-butanone-4-phosphate synthase (ribB), riboflavin synthase (ribH), tetrachloroethene reductive dehalogenase catalytically active subunit (pceA), and tetrachl>	0.21
3011	AJ243901	Mycoplasma hominis p75 gene, strain PG21	1.4
3013	XM_027894	Homo sapiens hypothetical protein DKFZp761C121 (DKFZp761C121), mRNA	5E-33
3014	AJ390525	Candida albicans ORF DNA, clone 64gB	0.52
3015	AJ006873	Buchnera aphidicola plasmid pBUsl, repA2 gene, leuA gene and ORF1	0.013
3016	L07898	Entamoeba histolytica alpha-1 tubulin (tub1) gene, complete cds	0.024
3017	L25107	Human LIS mRNA	1.2
3018	AL122122	Homo sapiens mRNA; cDNA DKFZp434L098 (from clone DKFZp434L098)	0.007
3019	V01270	Rattus norvegicus genes for 18S, 5.8S, and 28S ribosomal RNAs	2E-10
3020	AK023061	Homo sapiens cDNA FLJ12999 fis, clone NT2RP3000324	0.12
3021	U80449	Caenorhabditis elegans cosmid R10A10	0.29
3022	AF355473	Oryzias latipes germ cell-less protein (gcl) mRNA, complete cds	2.3
3023	XM_037811	Homo sapiens hypothetical gene supported by AL117650 (LOC91349), mRNA	0.39
3024	AK016492	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4931430N09, full insert sequence	0.004
3025	XM_011189	Homo sapiens similar to DKFZP564K247 protein (H. sapiens) (LOC91537), mRNA	4
3026	BC010710	Mus musculus, Similar to ribosomal protein L19, clone MGC:6500 IMAGE:2648593, mRNA, complete cds	5.1
3027	XM_017923	Homo sapiens hypothetical protein FLJ12660 (FLJ12660), mRNA	4.1
3028	AC016671	Homo sapiens BAC clone RP11-12J24 from Y, complete sequence	0.012
3029	L13662	Campylobacter jejuni major cell-binding factor (peb1) and receptor genes, complete cds	0.044
3030	X77172	M.musculus pF2 genomic DNA, homology with mouse repetitive elements B1, B2 and human Alu	0.008
3031	AF074841	Campylobacter lari tRNA-Ala and tRNA-Ile genes, complete sequence	0.016
3032	AF272846	Homo sapiens Fanconi anemia complementation group D2 protein (FANCD2) gene, exon 1	0.065
3033	D50090	Drosophila americana texana G-3-P dehydrogenase (alphaGpdh) gene, exon1-8, complete cds	0.13
3034	AE001417	Plasmodium falciparum chromosome 2, section 54 of 73 of the complete sequence	0.15
3035	AK002007	Homo sapiens cDNA FLJ11145 fis, clone PLACE1006626, highly similar to Homo sapiens mRNA for KIAA0928 protein	0.026

3036 3037 3038 3039 3041 3042 3043 3044 3045 3046 3047 3048 3049 3050 3051 3052 3053 3054 3055 3056 3057 3058 3059 3060 3061

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3036	AL512432	Human DNA sequence from clone RP11-245H22 on chromosome 6 Contains GSSs, complete sequence [Homo sapiens]	0.00003
3037	AB030490	Glycine max SG-05 gene for thiamin biosynthetic enzyme, complete cds	0.003
3038	U05820	Saccharomyces cerevisiae DA-box protein Smc2p (SMC2) gene, complete cds, and assimilatory sulfite reductase (MET10) gene, partial cds	1.7
3039	AF098761	Gracilaria gracilis microsatellite Gg155R sequence	0.07
3041	AF045595	Carassius auratus clone gf-40 glutamic acid decarboxylase isoform 67 (GAD67) mRNA, complete cds	2
3042	AJ404308	Sorites marginalis 18S rRNA gene, isolate 836	0.009
3043	AE006495	Streptococcus pyogenes M1 GAS strain SF370, section 24 of 167 of the complete genome	6
3044	XM_030781	Homo sapiens enigma (LIM domain protein) (ENIGMA), mRNA	3E-18
3045	AC024748	Caenorhabditis elegans cosmid Y110A2AR, complete sequence	0.15
3046	AL512282	Human DNA sequence from clone XXYac-BA141F18 on chromosome X, complete sequence [Homo sapiens]	0.06
3047	AF009980	Otolemur garnetti color vision opsin gene, exons 5 and 6, and complete cds	0.17
3048	AF284953	Carex exsiccata tRNA-Thr, partial sequence; trnT-trnL intergenic spacer, tRNA-Leu, and trnL-trnF intergenic spacer, complete sequence; and tRNA-Phe, partial sequence; chloroplast genes for chloroplast products	0.23
3049	AE004036	Xylella fastidiosa 9a5c, section 182 of 229 of the complete genome	4.3
3050	X94767	H.sapiens RP3 gene (XLRP gene 2)	0.002
3051	AF279135	Dictyostelium discoideum spore coat structural protein SP65 (cotE) gene, complete cds	0.003
3052	AF277452	Rattus norvegicus Pkd1 mRNA, partial cds	0.12
3053	AF327114	Homo sapiens clone 8qtel_c19t7 sequence	8E-17
3054	AB052201	Macaca fascicularis brain cDNA, clone:QnpA-20394	0.59
3055	AJ235314	Antilocapra americana mitochondrial DNA for D-loop	0.17
3056	AF361481	Homo sapiens mitochondrial GTP-binding protein 1 (GTPBP3) gene, complete cds; nuclear gene for mitochondrial product	0.009
3057	AE006879	Sulfolobus solfataricus section 238 of 272 of the complete genome	1.6
3058	AJ277756	Legionella pneumophila ORF X (partial), recA gene, recX gene and sya gene (partial)	0.21
3059	U73044	Schizosaccharomyces pombe ARS binding protein 2 (abp2) mRNA, complete cds	0.058
3060	AF043123	Homo sapiens interleukin-7 receptor precursor (IL7R) gene, exon 1	0.2
3061	L43603	Gallus gallus Na <sup>+</sup> /K <sup>+</sup> -ATPase alpha-1 subunit gene, promoter region	0.48

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3062	X68976	N.viridescens mRNA for Hoxd-10	0.092
3063	AF001454	Helianthus annuus Dc3 promoter-binding factor-2 (DPBF-2) mRNA, complete cds	0.18
3064	AF086062	Homo sapiens full length insert cDNA clone YZ06B11	3E-24
3065	U67234	Human clone HS5.29 Alu-Ya5 sequence	0.087
3066	AF030199	Mus musculus type 1 sigma receptor gene, complete cds	0.45
3067	J05544	Plasmodium falciparum glucosephosphate isomerase (ggi.R1) gene, complete cds	0.2
3068	X17455	Rat Bmyc gene 5'-fragment	0.003
3069	AF298207	Dictyostelium discoideum transposon thug-S, complete sequence	0.003
3070	NM_030238	Mus musculus dynein, cytoplasmic, heavy chain 1 (Dnchc1), mRNA	1.7
3071	AB032151	Homo sapiens BABP gene for bile acid-binding protein [AKR 1C2], exon 1 to 7	0.28
3072	NC_001481	Feline calicivirus, complete genome	1.9
3073	U49266	Mus musculus growth hormone receptor/binding protein gene, exons 9-10, and partial cds	0.13
3074	Z24279	H. sapiens (D1S489) DNA segment containing (CA) repeat; clone AFM309ve9; single read	0.16
3075	AF228724	Rhagoletis conversa NADH-dehydrogenase subunit 4 (ND4) gene, partial sequence; NADH-dehydrogenase subunit 4L (ND4L) gene, complete sequence; and tRNA-Thr gene, partial sequence; mitochondrial genes for mitochondrial products	0.048
3076	U72723	Oryza longistaminata receptor kinase-like protein (Xa21) gene, complete cds and family member C, pseudogene	0.21
3077	U55184	Human G protein Golf alpha gene, exon 12 and complete cds	1E-16
3078	AC006119	Mus musculus clone UWGC:mbac10gap from 14D1-D2 (T-Cell Receptor Alpha Locus), complete sequence	0.00004
3079	AK015900	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930526F13, full insert sequence	0.76
3080	AL133637	Homo sapiens mRNA; cDNA DKFZp434J1618 (from clone DKFZp434J1618); partial cds	0.071
3081	S74063	c-raf=raf protein [Xenopus laevis, mRNA, 2736 nt]	0.56
3082	NM_014498	Homo sapiens type II Golgi membrane protein (GPP130), mRNA	1.9
3083	AF238234	Entamoeba histolytica diaphanous protein (dia) gene, partial cds	2.1
3084	XM_010729	Homo sapiens SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily f, member 1 (SMARCF1), mRNA	0.65
3085	AK007542	Mus musculus 10 day old male pancreas cDNA, RIKEN full-length enriched library, clone:1810019D05, full insert sequence	0.62
3086	AF228977	Human T-cell lymphotropic virus type 1 isolate ATLL long terminal repeat, partial sequence	0.0003
3087	AC091698	Homo sapiens clone RP11-596J6, complete sequence	0.073
3088	AF233882	Homo sapiens plakoglobin (JUP) gene, exons 1 through 7	4E-88

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3089	U29468	Drosophila koepferae KO4 San Luis, Argentina, Gandalf transposable element DNA< partial sequence	0.2
3090	AF279292	Mycoplasma hyopneumoniae strain ISU 232 YX1 (yx1) gene, partial cds; p110 membrane protein precursor, gene, complete cds; and YX2 (yx2) gene, partial cds	0.2
3091	AF391284	Homo sapiens 11p15.5 clone LOH11A, partial sequence	0.007
3092	AF259737	Ovis aries microsatellite MNS-64 sequence	0.66
3093	NM_030261	Mus musculus hypothetical protein MGC7182 (MGC7182), mRNA	6E-36
3094	AB047879	Macaca fascicularis brain cDNA, clone:QnpA-14270	0.00003
3095	X65607	H.sapiens MT1X gene for metallothionein 1X	0.023
3096	AF231164	Pseudosymblepharis schimperiana tRNA-Leu, partial sequence; trnL-trnF intergenic spacer, complete sequence; and tRNA-Phe, partial sequence; chloroplast genes for chloroplast products	0.06
3097	AF290431	Mus musculus sequence downstream of Hyal1; and Fus2 gene, 5' UTR and exon 1	1.3
3098	X96762	C.elegans mRNA for DNA topoisomerase I	0.028
3099	AB036229	Salganea nigrita mitochondrial COII gene for cytochrome oxidase II, partial cds, collection_site:Lake Danao, Leyte, Philippines	0.53
3100	AJ309183	Staphylococcus aureus partial coa gene for coagulase, type F, isolate rs59	0.07
3101	AF240785	Homo sapiens glutathione-S-transferase GSTT1 deletion/junction region sequence	0.000004
3102	XM_031737	Homo sapiens synaptosomal-associated protein, 23kD (SNAP23), mRNA	0.0000004
3103	AY035097	Arabidopsis thaliana putative proline-rich protein (F23H24.15) mRNA, complete cds	0.18
3104	AF121069	Anopheles farauti 3 12S small subunit ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.065
3105	NM_016701	Mus musculus nestin (Nes), mRNA	0.23
3106	L41893	Homo sapiens retinoblastoma susceptibility protein (RB1) gene, exon 5, bases 44452-44939 in L11910	0.008
3107	Z78623	H.sapiens flow-sorted chromosome 6 TaqI fragment, SC6pA12B7	2E-21
3108	XM_041367	Homo sapiens NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 4 (15kD, B15) (NDUFB4), mRNA	2E-24
3109	AL117617	Homo sapiens mRNA; cDNA DKFZp564H0764 (from clone DKFZp564H0764)	0.17
3110	AK023907	Homo sapiens cDNA FLJ13845 fis, clone THYRO1000815	7E-42
3111	M95396	Yeast putative transcriptional activator (ADA2) gene, complete cds	3.8
3112	NC_002670	Bacteriophage bIL311, complete genome	0.073
3113	XM_037870	Homo sapiens desmoplakin (DPI, DPII) (DSP), mRNA	2.2
3114	NM_032276	Homo sapiens hypothetical protein DKFZp547E052 (DKFZp547E052), mRNA	0.43

3115 3116 3117 3118 3119 3120 3121 3122 3123 3125 3126 3127 3128 3129 3130 3131 3132 3133 3134 3135 3136 3137 3138 3139 3140 3141

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3115	AB048877	Macaca fascicularis brain cDNA, clone:QnpA-16414	3E-30
3116	AK014209	Mus musculus 13 days embryo head cDNA, RIKEN full-length enriched library, clone:3110053B16, full insert sequence	0.029
3117	XM_037053	Homo sapiens rhabdoid tumor deletion region protein 1 (RTDR1), mRNA	9E-47
3118	AF156197	Cinara pseudotaxifolia cytochrome oxidase II gene, partial cds; mitochondrial gene for mitochondrial product	0.18
3119	AK022006	Homo sapiens cDNA FLJ11944 fis, clone HEMBB1000684	0.003
3120	U23175	Caenorhabditis elegans cosmid F57F10, complete sequence	0.022
3121	AF267198	Candidatus Carsonella ruddii natural-host Aryanina genistae ATP synthase alpha subunit (atpA) gene, partial cds; ATP synthase gamma subunit (atpG) gene, complete cds; and ATP synthase beta subunit (atpD) gene, partial cds	0.019
3122	AY026461	Homo sapiens CUB domain containing protein 1 (CDCP1) mRNA, complete cds	0.5
3123	NC_002471	Typhlonectes natans mitochondrion, complete genome	0.45
3125	AF328531	Homo sapiens clone 9qtel_c10t7 sequence	0.00001
3126	AF397158	Homo sapiens clone 11 pur alpha-associated ribosomal RNA gene, partial sequence	2E-37
3127	AF110970	HIV-1 isolate C-96BW11.06 country Botswana, complete genome	5.3
3128	AJ237690	Canis familiaris polymorphic marker clone XC08	1.3
3129	AE001176	Borrelia burgdorferi (section 62 of 70) of the complete genome	0.084
3130	AJ271333	Campylobacter hyoilei ORF1, ORF2, ORF3 and ORF4	6.7
3131	AF112247	Merluccius productus Mpro-1 mitochondrial control region, partial sequence	0.0008
3132	XM_002378	Homo sapiens uncharacterized hypothalamus protein HT010 (HT010), mRNA	4E-28
3133	AJ242726	Xenopus laevis mRNA for p21 activated kinase 2 (PAK2 gene)	0.25
3134	AF049711	Petunia x hybrida pollen-specific 1-aminocyclopropane-1-carboxylate synthase (ACS2) gene, complete cds	0.24
3135	XM_003091	Homo sapiens KIAA0001 gene product; putative G-protein-coupled receptor; G protein coupled receptor for UDP-glucose (KIAA0001), mRNA	2.2
3136	Z33368	M.capricolum DNA for CONTIG MCABF	0.001
3137	AE001433	Plasmodium falciparum chromosome 2, section 70 of 73 of the complete sequence	0.001
3138	AK017235	Mus musculus adult male pituitary gland cDNA, RIKEN full-length enriched library, clone:5330405D10, full insert sequence	0.7
3139	Z57308	H.sapiens CpG island DNA genomic MseI fragment, clone 170g9, reverse read cpg170g9.rt1a	0.023
3140	AC005485	Homo sapiens PAC clone RP5-998M2 from 7q33-q35, complete sequence	5.4
3141	AF118654	Leishmania donovani ATPase 6 gene; kinetoplast gene for kinetoplast product	0.66



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3142	AJ271879	Uncultured eubacterium plasmid pIE1130 DNA for repA gene, repC gene, repB gene, mobA gene, mobB gene, mobC gene, cac gene, catIII gene, sulII gene, strA gene, strB gene and aph(3')-I gene	0.26
3143	Y00165	Sus scrofa mRNA for link protein	0.079
3144	AF283982	Caenorhabditis elegans transcription enhancer factor-1-like protein EGL-44 (egl-44) gene, complete cds	0.0007
3145	AE004926	Pseudomonas aeruginosa PA01, section 487 of 529 of the complete genome	0.44
3146	AE004738	Pseudomonas aeruginosa PA01, section 299 of 529 of the complete genome	1.4
3147	AC083824	Homo sapiens clone RP11-91J18, complete sequence	0.59
3148	AY023127	Oryza sativa microsatellite MRG5452 containing (GCA)X9, closest to marker C402, genomic sequence	0.77
3149	XM_002943	Homo sapiens similar to PRO0327 protein (H. sapiens) (LOC92570), mRNA	0.073
3150	D88151	Clostridium perfringens DNA for D-alanine:D-alanine ligase, cortical fragment-lytic enzyme	0.057
3151	XM_009013	Homo sapiens similar to tumor necrosis factor (ligand) superfamily, member 14 (H. sapiens) (LOC63472), mRNA	1.7
3152	NM_012702	Rattus norvegicus Carcinoembryonic antigen gene family (CGM1) (Cgm1), mRNA	1.5
3153	AJ131041	Clogmia albipunctata mRNA for Hunchback protein, partial	0.019
3154	AE000720	Aquifex aeolicus section 52 of 109 of the complete genome	5.3
3155	X74789	Potato leaf roll virus RNA sequence	0.47
3156	AF064478	Homo sapiens natural resistance-associated macrophage protein 2 (NRAMP2) gene, exons 4 and 5	0.021
3157	M84761	Rat fatty acid synthase gene, complete cds	0.25
3158	AF239566	Polycygnis ornata tRNA-Leu (trnL) gene, partial sequence; and trnL-F intergenic spacer region, complete sequence; chloroplast gene for chloroplast product	0.007
3159	AF343914	Campylobacter jejuni NCTC 11828 LOS biosynthesis cluster, partial sequence	0.025
3160	AL137443	Homo sapiens mRNA; cDNA DKFZp566G184 (from clone DKFZp566G184)	0.99
3161	X54452	D.discoideum culmination spiA (Dd31) gene	0.71
3162	X80908	L.esculentum gene for fruit ripening polygalacturonase	0.069
3163	XM_007838	Homo sapiens nuclear factor of activated T-cells 5, tonicity-responsive (NFAT5), mRNA	0.5
3164	AF119385	Mus musculus KvLQT1 gene, KvLQT1-AS allele, partial intron sequence	0.17
3165	X86449	E.caballus DNA segment containing microsatellite	1E-25
3166	Z22800	H.sapiens microsatellite repeat	0.000004
3167	U22842	Lagos bat virus nucleoprotein gene, partial cds	0.027

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3168	AF108897	Campylobacter jejuni PglB (pglB) gene, partial cds; and PglA (pglA), PglC (pglC), PglD (pglD), PglE (pglE), PglF (pglF), and PglG (pglG) genes, complete cds	0.73
3169	AE000556	Helicobacter pylori 26695 section 34 of 134 of the complete genome	0.016
3170	AK024295	Homo sapiens cDNA FLJ14233 fis, clone NT2RP4000049	0.46
3171	U13835	Mus musculus c-abl protein (c-abl) gene, exons 1 and 1B, alternatively spliced	4.5
3172	AJ132887	Homo sapiens telomere-junction DNA sequence, haplotype B	6E-13
3173	XM_007277	Homo sapiens hypothetical protein DKFZp761F2014 (DKFZp761F2014), mRNA	1.9
3174	L40470	Pisum sativum (clone HW39-4) gene fragment	0.05
3175	AF206594	Lacerta vivipara 12S ribosomal RNA gene, partial sequence; tRNA-Val gene, complete sequence; and 16S ribosomal RNA gene, partial sequence; mitochondrial genes for mitochondrial products	0.69
3176	XM_037847	Homo sapiens neurexophilin 3 (NXPH3), mRNA	6.7
3177	AY026945	Rattus norvegicus T:G mismatch thymine glycosylase mRNA, complete cds	1.6
3178	XM_028009	Homo sapiens KIAA1563 protein (KIAA1563), mRNA	2E-71
3179	AF250386	Carsonella ruddii RNA polymerase beta subunit (rpoB) and RNA polymerase beta-prime subunit (rpoC) genes, partial cds	0.65
3180	AB038968	Homo sapiens CFLAR gene, exon 5, exon 6	0.24
3182	AK023569	Homo sapiens cDNA FLJ13507 fis, clone PLACE1005085	2E-64
3183	AF240176	Mus Mus musculus MRP13 mRNA	2
3184	U20230	Human guanyl cyclase C gene, partial cds	0.2
3185	L18959	Ovis aries T cell receptor gene V-region, exons 1 (3' end) and 2 (5' end)	0.64
3186	U36785	Rattus norvegicus putative pheromone receptor VN1 mRNA, complete cds	0.73
3187	AF270614	Homo sapiens clone 5qtel_c93t7 sequence	0.075
3188	NM_004114	Homo sapiens fibroblast growth factor 13 (FGF13), mRNA	6.7
3189	AJ403239	M.musculus DNA for vimentin-binding fragment VimE7	0.076
3190	BC010716	Mus musculus, clone MGC:6551 IMAGE:2655861, mRNA, complete cds	4.9
3191	AF270162	Staphylococcus epidermidis strain SR1 clone step.1051e05 genomic sequence	0.56
3192	XM_046992	Homo sapiens hypothetical gene supported by AL137734 (LOC92742), mRNA	1.5
3193	AE003909	Xylella fastidiosa 9a5c, section 55 of 229 of the complete genome	6.3
3194	AF240176	Mus Mus musculus MRP13 mRNA	1.5
3195	L08174	Romanomermis culicivorax mitochondrial NADH dehydrogenase subunits 6 and 3 (ND6, ND3) cytochrome P450-like protein genes, complete CDS	0.5

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3196	AK021098	Mus musculus adult male corpus striatum cDNA, RIKEN full-length enriched library, clone:C030021G16, full insert sequence	6.5
3197	AF311637	Eimeria separata ORF470 gene, partial cds; apicoplast gene for apicoplast product	0.079
3198	D84549	Candida tropicalis DNA for carnitine acetyltransferase, complete cds	0.057
3199	XM_045864	Homo sapiens KIAA1804 protein (KIAA1804), mRNA	0
3200	XM_010334	Homo sapiens transducin (beta)-like 1 (TBL1), mRNA	1.9
3201	AL133154	S.pombe chromosome I cosmid c1751	0.15
3202	S75898	aromatase [Poephila guttata=zebra finches, ovary, mRNA, 3188 nt]	0.49
3203	AF047669	Homo sapiens dystrophin (DMD) gene, deletion junction 8 between introns 7 and 20	0.001
3204	AB042652	Bos taurus mRNA for zona pellucida glycoprotein ZPB, complete cds	0.58
3205	AF147082	Homo sapiens gamma-glutamyl hydrolase gene, exons 3 through 7	0.028
3206	AE006252	Lactococcus lactis subsp. lactis IL1403 section 14 of 218 of the complete genome	0.07
3207	Z99773	Caenorhabditis elegans cosmid H06A10, complete sequence	0.7
3208	NC_001328	Caenorhabditis elegans mitochondrion, complete genome	0.025
3209	AY037251	Arabidopsis thaliana AT4g30750/T10C21_100 mRNA, complete cds	5.9
3210	Z12834	L.esculentum gene for polyphenol oxidase	0.75
3211	AL391057	Human DNA sequence from clone RP11-533B2 on chromosome 10, complete sequence [Homo sapiens]	0.07
3212	AF001454	Helianthus annuus Dc3 promoter-binding factor-2 (DPBF-2) mRNA, complete cds	0.21
3213	AF295925	Streptococcus pneumoniae transposon Tn5252 Orf28, Orf27, Orf26, Orf25, Orf24, Orf23, Orf22, Orf21, and Orf20 genes, complete cds	0.019
3214	AC024821	Caenorhabditis elegans cosmid Y55B1AR, complete sequence	1.7
3215	AC018655	Homo sapiens 12q BAC RP11-946G22 (Roswell Park Cancer Institute Human BAC Library) complete sequence	0.0000001
3216	XM_043524	Homo sapiens cadherin 17, LI cadherin (liver-intestine) (CDH17), mRNA	2E-52
3217	XM_051566	Homo sapiens phosphoinositide-3-kinase, catalytic, beta polypeptide (PIK3CB), mRNA	0.025
3218	X84742	M.musculus GPX3 gene	0.079
3219	AL445527	Human DNA sequence from clone RP11-115C2 on chromosome 1, complete sequence [Homo sapiens]	5.4
3220	AF254792	Danio rerio Period3 circadian clock protein (Per3) mRNA, complete cds	3.8
3221	AE002225	Chlamydomonas reinhardtii AR39, section 53 of 94 of the complete genome	0.12

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3222	XM_048692	Homo sapiens similar to hypothetical protein (H. sapiens) (LOC92998), mRNA	2E-15
3223	AF335456	Clavulina cinerea 18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene and internal transcribed spacer 2, complete sequence; and 28S ribosomal RNA gene, partial sequence	0.037
3224	AF335589	Glycine max chitinase class I (Chia1) and hypothetical protein genes, complete cds	3.3
3225	AE005230	Escherichia coli O157:H7 EDL933 genome, contig 1 of 3, section 54 of 155	5.2
3226	AB010822	Homo sapiens MASP gene for mannose binding protein-associated protease, exon 1	7E-13
3227	XM_052139	Homo sapiens interleukin 13 receptor, alpha 1 (IL13RA1), mRNA	0.007
3228	AF293654	Toxoplasma gondii TgMIC10 precursor (MIC10) mRNA, complete cds	0.15
3229	AJ388514	Canis familiaris mRNA for partial Ribosomal protein S14	0.38
3230	U80814	Caenorhabditis elegans cosmid B0547, complete sequence	0.22
3231	NM_013890	Mus musculus f-box and WD-40 domain protein 2 (Fbxw2), mRNA	0.29
3232	AB042411	Homo sapiens strg gene for striatum-specific G protein-coupled receptor, complete cds	0.000009
3233	AF151527	Hyphantria cunea serpin gene, complete cds	0.001
3234	X78305	M. musculus (SRP9) signal recognition particle subunit mRNA, 1116bp	0.047
3235	NM_018830	Mus musculus N-acylsphingosine amidohydrolase 2 (Asah2), mRNA	0.18
3236	AF302060	Apocryptophagus sp. MSPAR4 cytochrome oxidase I (COI) gene, partial cds; mitochondrial gene for mitochondrial product	0.007
3237	AB024025	Arabidopsis thaliana genomic DNA, chromosome 5, TAC clone:K16F13	0.012
3238	U25810	Bos taurus lysozyme (LZ) gene, complete cds	0.004
3239	X95363	C.annuum gamma thionin gene	0.15
3240	AF286897	Plasmodium berghei carbamoyl phosphate synthetase II gene, partial cds	0.15
3241	AF290920	Procambarus clarkii microsatellite PclG-03 sequence	3.7
3242	AE006380	Lactococcus lactis subsp. lactis IL1403 section 142 of 218 of the complete genome	2.2
3243	U66913	Dictyostelium discoideum ORF DG1040 gene, partial cds	0.22
3244	Y00460	Mouse genes for transfer RNA-Ala, tRNA-Ile, tRNA-Pro and tRNA-Lys	0.026
3245	L08052	Fruitfly myosin alkali light chain (Mlc1) gene 'supercontractile/tubular muscle and indirect flight muscle isoforms'; complete cds's	0.67
3246	AF076597	Dictyostelium discoideum ubiquitin-conjugating enzyme protein UbcC (ubcC) mRNA, complete cds	0.58

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3247	U67518	Methanococcus jannaschii section 60 of 150 of the complete genome	0.003
3248	AF362370	Dictyostelium discoideum histidine kinase DhkH (dhkH) gene, partial cds	6
3249	AF146688	Fugu rubripes sex comb on midleg-like 2 protein (SCML2) gene, complete cds	0.026
3250	AK009952	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2310057C01, full insert sequence	0.07
3251	AB005803	Homo sapiens DNA for histidine-rich glycoprotein, complete cds	0.078
3252	AY021484	Oryza sativa microsatellite MRG3809 containing (TA)X27, closest to marker G227, genomic sequence	2.2
3253	AD000833	Homo sapiens DNA from chromosome 19-cosmid f19399 (~17 kb EcoRI restriction fragment)	0.024
3254	AB048982	Macaca fascicularis brain cDNA, clone:QnpA-13067	0.38
3255	AL023839	Caenorhabditis elegans cosmid Y39A1C, complete sequence	0.026
3256	NC_002052	Tomato spotted wilt virus RNA-L, complete sequence	0.22
3257	AK022137	Homo sapiens cDNA FLJ12075 fis, clone HEMBB1002425	0.64
3258	U44047	Xenopus laevis MCM2 mRNA, complete cds	0.24
3259	Z61385	H.sapiens CpG island DNA genomic MseI fragment, clone 51d3, forward read cpg51d3.ft1a	5E-21
3260	AF163151	Homo sapiens dentin sialophosphoprotein precursor (DSPP) gene, complete cds	0.003
3261	L11194	Montinia caryophyllacea ribulose 1,5-bisphosphate carboxylase large subunit (rbcL) gene, partial cds; chloroplast gene for chloroplast product	6.4
3262	BC002928	Homo sapiens, clone MGC:11357 IMAGE:3954507, mRNA, complete cds	3E-46
3263	XM_002837	Homo sapiens acid phosphatase, prostate (ACPP), mRNA	2.3
3264	AF189787	Hordeum vulgare putative c-myb-like transcription factor (MYB3R-1) gene, partial cds	0.61
3266	AB048353	Paramecium caudatum mRNA for hsp60, partial cds	1.8
3267	U75274	Arabidopsis thaliana acyl-CoA binding protein (ACBP) gene, complete cds	0.69
3268	AF034077	Equus caballus alpha-1-antitrypsin (Spi2) gene, complete cds	0.077
3269	AL031426	Human DNA sequence from clone CTA-191D12 on chromosome 22q13.1 Contains two exons of the APOL2 gene for apolipoprotein L 2, ESTs and GSSs, complete sequence [Homo sapiens]	0.000001
3270	AJ007958	Thiobacillus sp. plasmid pT3.2I including adh and repA genes, partial	0.001
3271	NM_025978	Mus musculus RIKEN cDNA 2700016E08 gene (2700016E08Rik), mRNA	1E-17
3272	XM_018403	Homo sapiens similar to gene with multiple splice variants near HD locus on 4p16.3 (H. sapiens) (LOC91016), mRNA	5.5
3273	AJ238613	Gallus gallus mRNA for teneurin-1	0.57
3274	XM_033841	Homo sapiens FGFR1 oncogene partner (FOP), mRNA	0.55

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3275	NM_014601	Homo sapiens EH-domain containing 2 (EHD2), mRNA	0.065
3276	AK021659	Homo sapiens cDNA FLJ11597 fis, clone HEMBA1003856	9E-13
3277	AB054644	Sarcophaga peregrina gene for lectin, 5' upstream region and partial cds	0.045
3278	AK010362	Mus musculus ES cells cDNA, RIKEN full-length enriched library, clone:2410003J06, full insert sequence	5.5
3279	AF282974	Plasmodium falciparum cysteine protease falcipain-3 gene, complete cds	1.8
3280	U60135	Arabidopsis thaliana serine/threonine protein phosphatase 2A-3 catalytic subunit gene, complete cds	0.024
3281	AF365086	Martiodendron parviflorum tRNA-Leu (trnL) gene, partial intron sequence; chloroplast gene for chloroplast product	6.5
3282	AE002140	Ureaplasma urealyticum section 41 of 59 of the complete genome	0.22
3283	Z49124	S.oleracea chloroplast secA mRNA	0.074
3284	AE002353	Chlamydia muridarum, section 80 of 85 of the complete genome	4.4
3285	XM_011989	Homo sapiens ELKL motif kinase (EMK1), mRNA	7E-54
3286	AJ252287	Plasmodium falciparum partial msp3 gene for merozoite surface protein 3	0.68
3287	AK018224	Mus musculus adult male medulla oblongata cDNA, RIKEN full-length enriched library, clone:6330531I01, full insert sequence	2
3288	X91123	Homo sapiens partial SLC6A2 gene for norepinephrine transporter, exon 5	7.5
3289	AB045007	Mus musculus GNB2 gene for guanine nucleotide binding protein beta2 subunit, complete cds	0.67
3290	AY017272	Peromyscus difficilis isolate TK32541 mys-9 retrotransposon and LTR, 5' sequence	5.4
3291	AL590902	S.pombe chromosome I cosmid pB8E5	0.077
3292	XM_003311	Homo sapiens surfactant protein A binding protein (SPAR), mRNA	0.38
3293	AK027388	Homo sapiens cDNA FLJ14482 fis, clone MAMMA1002362	0.007
3294	AB043885	Homo sapiens BHLHB2 gene for bHLH transcriptional factor DEC1, complete cds	0.068
3295	XM_028213	Homo sapiens up-regulated by BCG-CWS (LOC64116), mRNA	0.073
3296	XM_039789	Homo sapiens solute carrier family 2 (facilitated glucose transporter), member 2 (SLC2A2), mRNA	9.2
3297	AK021841	Homo sapiens cDNA FLJ11779 fis, clone HEMBA1005921	0.65
3298	M11815	Plasmid pGKL1 from killer yeast (K.lactis), complete	0.008
3299	AF166527	Zea mays flowering-time protein isoforms alpha and beta (ZmLD) gene, alternatively spliced products, complete cds	0.074
3300	XM_040556	Homo sapiens similar to hypothetical protein FLJ20127 (H. sapiens) (LOC91775), mRNA	0.22
3301	AB001569	Carrot DNA for transposon Tdc1	0.17
3302	AF326737	Mus musculus sclerostin gene, complete cds	4.7
3303	AF272001	Ebola virus subtype Zaire strain Mayinga complete genome	1.9

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3304	XM_034863	Homo sapiens similar to hypothetical protein FLJ22294 (H. sapiens) (LOC90918), mRNA	0.2
3305	AC006654	Caenorhabditis elegans cosmid H09I01, complete sequence	0.023
3306	AK008812	Mus musculus adult male stomach cDNA, RIKEN full-length enriched library, clone:2210403E17, full insert sequence	6.1
3307	AF151387	Lucilia eximia tRNA-Ile gene, partial sequence; D-loop, complete sequence; and 12S ribosomal RNA, partial sequence; mitochondrial genes for mitochondrial products	0.077
3308	S53497	immunoglobulin epsilon chain constant region=secreted form {3' region} [human, B cell myeloma U-266, Genomic, 3198 nt]	5.5
3309	XM_010126	Homo sapiens stromal antigen 2 (STAG2), mRNA	e-115
3310	D10500	Homo sapiens MAT gene for mitochondrial acetoacetyl-CoA thiolase, exon 1	1.9
3311	AF293900	Parafabellula reniformis small subunit ribosomal RNA gene, complete sequence	0.092
3312	NC_001530	Human papillomavirus type 47, complete genome	0.67
3313	Z85396	H.sapiens Ig lambda light chain variable region gene (34-34SWIIF32) rearranged; Ig-Light-Lambda; VLambda	0.71
3314	NC_001566	Apis mellifera ligustica mitochondrion, complete genome	0.015
3315	AF103869	Plasmodium yoelii blood-stage membrane protein Ag-1 mRNA, complete cds	1.5
3316	XM_007957	Homo sapiens hypothetical protein (LOC57019), mRNA	3E-27
3317	XM_012723	Homo sapiens chromosome 18 open reading frame 1 (C18orf1), mRNA	2.7
3318	XM_046956	Homo sapiens Kallmann syndrome 1 sequence (KAL1), mRNA	4.5
3319	AE000614	Helicobacter pylori 26695 section 92 of 134 of the complete genome	0.068
3320	NM_017932	Homo sapiens hypothetical protein FLJ20700 (FLJ20700), mRNA	1.7
3321	AK017541	Mus musculus 8 days embryo cDNA, RIKEN full-length enriched library, clone:5730410F24, full insert sequence	4.8
3322	AK016519	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4932411G06, full insert sequence	1.9
3323	U38184	Trypanosoma cruzi kinetoplast minicircle ATPase subunit 6 mRNA, complete cds	0.0003
3324	Z54181	M.catarrhalis bla gene for BRO-2	0.069
3325	U43961	Oryza sativa 3-hydroxy-3-methylglutaryl-CoA reductase gene, promoter region and complete cds	0.17
3326	AK025166	Homo sapiens cDNA: FLJ21513 fis, clone COL05778	0.23
3327	AF158727	Homo sapiens truncated properdin (PFC) gene, exons 1 and 2	0.73
3328	AL116536	Botrytis cinerea strain T4 cDNA library under conditions of nitrogen deprivation	0.57
3329	NC_001712	Locusta migratoria mitochondrion, complete genome	0.061

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3330	AY028779	Staphylococcus epidermidis plasmid pST6 beta-lactamase repressor BlaI (blaI) gene, partial cds; resolvase/integrase BinR (binR), recombinase Sin (sin), repressor QacR (qacR), and transport protein QacB (qacB) genes, complete cds; and unknown gene	0.23
3331	AF346992	Homo sapiens mitochondrion, complete genome	1.7
3332	NM_031389	Mus musculus ribonuclease/angiogenin inhibitor 2 (Rnh2), mRNA	1.9
3333	AC079918	Homo sapiens BAC clone RP11-114K13 from 7, complete sequence	0.0002
3335	AF298207	Dictyostelium discoideum transposon thug-S, complete sequence	0.15
3336	L36903	Saccharomyces cerevisiae mitochondrion 21S ribosomal RNA (21S rRNA) gene, 21S R2 ribosomal RNA (21S R2 rRNA) gene, and ORF RI	0.024
3337	AF239663	Prunus persica ACC synthase gene, partial cds	0.066
3338	AJ223690	H.sapiens D2-1-K2G7np gene for immunoglobulin kappa chain variable region	0.026
3339	AC084157	Caenorhabditis elegans cosmid Y46E12BR, complete sequence	4.4
3340	M58606	B.subtilis threonine deaminase (ILVA) gene, complete cds	0.62
3341	NC_001648	Cassava vein mosaic virus, complete genome	0.008
3342	U09277	Caenorhabditis elegans Bristol N2 synaptic vesicle acetylcholine transporter (unc-17) gene, complete cds	0.024
3343	U52821	Mus musculus prion (PrP) gene, exons 1 and 2	1.9
3344	AK014936	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4921521D15, full insert sequence	2
3345	AE007447	Streptococcus pneumoniae section 130 of 194 of the complete genome	5
3346	AK005820	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:1700010F03, full insert sequence	0.18
3347	AB011681	Danio rerio mRNA for ZOR-2, complete cds	1.9
3348	AB030616	Mus musculus Chetk-alpha gene for choline/ethanolamine kinase-alpha, exon 1 and 5'-flanking region	2E-10
3349	AF269359	Staphylococcus epidermidis strain SR1 clone step.1002e12 genomic sequence	0.53
3350	AF063004	Trypanosoma rotatorium trans-spliced leader gene, partial sequence	1.9
3351	AE001411	Plasmodium falciparum chromosome 2, section 48 of 73 of the complete sequence	0.008
3352	AF240496	Mus musculus clone 148d4 Naip5 gene, partial sequence	0.56
3353	XM_004722	Homo sapiens hypothetical protein FLB6421 (FLB6421), mRNA	2.2
3354	AF100324	Mycoplasma fermentans DNA polymerase III subunit (dnaH), YabC protein (yabC), orf550, lipoprotein MALP-404 precursor (malP), insertion sequence IS1630 transposase (tnpA) genes, complete cds; P78 ATP-binding cassette transport operon, complete sequence;>	2.1
3355	NM_019684	Mus musculus serine/threonine kinase 23 (Stk23), mRNA	0.23



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3356	AB004856	Buchnera aphidicola mRNA for homoserine kinase, partial cds	1.9
3357	AF328428	Homo sapiens clone lptel_2109Bf&Br sequence	2E-11
3358	XM_041166	Homo sapiens hypothetical gene supported by AF308287; BC009516 (LOC91860), mRNA	0.024
3359	AE006429	Lactococcus lactis subsp. lactis IL1403 section 191 of 218 of the complete genome	0.24
3360	U95455	HIV-1 clone 8 isolate BV from Milan, envelope glycoprotein, V1-V5 region (env) gene, partial cds	0.026
3361	XM_001775	Homo sapiens PEF protein with a long N-terminal hydrophobic domain (peflin) (PEF), mRNA	0.45
3362	AF100670	Caenorhabditis elegans cosmid M4	0.072
3363	AB036737	Homo sapiens mRNA for RERE, complete cds	0.21
3364	AE001030	Archaeoglobus fulgidus section 77 of 172 of the complete genome	1.5
3365	XM_046602	Homo sapiens hypothetical gene supported by AK027658 (LOC92679), mRNA	2
3366	XM_005889	Homo sapiens kinesin-like 1 (KNSL1), mRNA	0.21
3367	AF275345	Lycopersicon esculentum MADS-box transcription factor jointless gene, complete cds	1.2
3368	NC_000857	Ceratitidis capitata complete mitochondrial genome	0.022
3369	AC002048	Human PCR Fragment of Cosmid g1346a274 from 7q31.3, complete sequence [Homo sapiens]	1E-16
3371	AB016611	Enterobacter cloacae ampC gene, complete cds	0.62
3372	NM_026040	Mus musculus RIKEN cDNA 2810036K01 gene (2810036K01Rik), mRNA	e-138
3373	AJ252860	Human immunodeficiency virus type 1, partial proviral POL gene, rt region, isolate CL	0.25
3374	XM_043434	Homo sapiens villin-like (VILL), mRNA	1.8
3375	AE002776	Drosophila melanogaster genomic scaffold 142000013385952, complete sequence	0.19
3376	XM_030198	Homo sapiens tumor necrosis factor receptor superfamily, member 8 (TNFRSF8), mRNA	0.76
3377	X65450	C.canis mRNA for chloride channel	6.3
3378	NM_032248	Homo sapiens hypothetical protein DKFZp434F1719 (DKFZp434F1719), mRNA	1E-47
3379	L47121	Carnobacterium piscicola transposase, bacteriocin, histidine protein kinase, ATP dependent translocator, accessory protein, and carnobacteriocin B2 genes, complete cds	0.18
3380	L26287	Schistosoma mansoni SMDR2 gene, complete cds	0.66
3381	AF125130	Nemadactylus macropterus clone 15.1 microsatellite sequence	0.072
3383	AB040099	Oryzias latipes olgc4 gene for membrane guanylyl cyclase OIGC4, 5' flanking sequence and partial cds	0.22
3384	AF375398	Arabidopsis thaliana Atlg51660/F19C24_26 gene, complete cds	6
3385	AF391256	HIV-1 clone TV004G24 from South Africa gag protein (gag) gene, complete cds	0.23
3386	X91865	A.thaliana asp5 gene	2.1

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3387	XM_047084	Homo sapiens human immunodeficiency virus type I enhancer-binding protein 2 (HIVEP2), mRNA	0.21
3388	AF115469	Arabidopsis thaliana cultivar Landsberg erecta Arac2 (Arac2) gene, complete cds	2.3
3389	Z48051	H.sapiens gene for myelin oligodendrocyte glycoprotein (MOG)	0.008
3390	U49259	Arabidopsis thaliana isopentenyl diphosphate:dimethylallyl diphosphate isomerase (IPP2) mRNA, complete cds	2.2
3391	AF032124	Homo sapiens RET proto-oncogene (RET) gene, 5' flanking region and partial cds	0.079
3392	AE001420	Plasmodium falciparum chromosome 2, section 57 of 73 of the complete sequence	0.067
3393	XM_005555	Homo sapiens UDP-glucose ceramide glucosyltransferase (UGCG), mRNA	0.076
3394	Z81014	Human DNA sequence from cosmid U65A4, between markers DXS366 and DXS87 on chromosome X *	2.1
3395	XM_002056	Homo sapiens hypothetical protein FLJ11006 (FLJ11006), mRNA	0.26
3396	AF339787	Homo sapiens clone IMAGE:205688, mRNA sequence	2
3397	AP000145	Homo sapiens genomic DNA, chromosome 21q21.2, LL56-APP region, clone B2291C14-R44F3, segment 10/10, complete sequence	0.026
3398	AF261936	Homo sapiens clone 11ptel_c3t7 sequence	0.00002
3399	AF193615	Homo sapiens G-protein-coupled inward rectifying K+ channel KCNJ9 (KCNJ9) gene, complete cds	0.009
3400	AK009952	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2310057C01, full insert sequence	0.079
3401	AF091779	Oncorhynchus mykiss non-classical MHC class I antigen (Onmy-UAA) gene, Onmy-UAA*0101 allele, complete cds	2.3
3402	AB001735	Mus musculus DNA for ADAMTS-1, complete cds	2.3
3403	AK000589	Homo sapiens cDNA FLJ20582 fis, clone KAT12156	1E-13
3404	U55243	Dictyostelium discoideum glyceraldehyde-3-phosphate dehydrogenase (GAPDH) gene, partial cds	0.24
3405	AF110612	Boophilus microplus cytochrome b apoenzyme (Cytb) gene, partial cds; tRNA-Ser, tRNA-Leu, tRNA-Cys, and tRNA-Met genes, complete sequence; and NADH dehydrogenase subunit 2 (ND2) gene, partial cds, mitochondrial genes for mitochondrial products	0.077
3406	AF060542	Haemophilus influenzae biogroup aegyptius HaeIV restriction/modification system (HaeIVRM) gene, complete cds	0.75
3407	AF303391	Homo sapiens meiotic recombination 11 (MRE11A) gene, exon 16	1.7
3408	AF269359	Staphylococcus epidermidis strain SR1 clone step.1002e12 genomic sequence	0.22
3409	AF327975	Hentzia palmarum 16S ribosomal RNA, partial sequence; mitochondrial gene for mitochondrial product	0.57

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3410	XM_047898	Homo sapiens variable charge protein on X with eight repeats (VCX-8r), mRNA	5.9
3411	XM_047003	Homo sapiens TATA box binding protein (TBP)-associated factor, RNA polymerase II, B, 150kD (TAF2B), mRNA	0.7
3412	D86566	Human DNA for NOTCH4, partial cds	0.025
3413	AF360301	Arabidopsis thaliana unknown protein (T8B10_70/AT3g60410) mRNA, complete cds	0.64
3414	AJ404228	Saccharomyces douglasii mitochondrial tRNA gene cluster	0.002
3415	XM_037369	Homo sapiens hypothetical protein FLJ20693 (FLJ20693), mRNA	9E-14
3416	AE005230	Escherichia coli O157:H7 EDL933 genome, contig 1 of 3, section 54 of 155	6.2
3417	AL121778	Human DNA sequence from clone RP5-839B11 on chromosome 20. Contains the first coding exon of the gene for a novel protein with a Kunitz/Bovine pancreatic trypsin inhibitor domain and WAP-type (Whey Acidic Protein) 'four-disulfide core' domains and an e>	0.08
3418	AY020760	Oryza sativa microsatellite MRG3085 containing (TA)X13, closest to marker R2976, genomic sequence	6.8
3419	AL122122	Homo sapiens mRNA; cDNA DKFZp434L098 (from clone DKFZp434L098)	1.8
3420	AF250346	Xenopus laevis early growth response protein 1 (egr1) gene, partial cds	0.077
3421	XM_044852	Homo sapiens KIAA1572 protein (KIAA1572), mRNA	0.7
3422	XM_049057	Homo sapiens G protein-coupled receptor 49 (GPR49), mRNA	7
3423	AJ223690	H.sapiens D2-1-K2G7np gene for immunoglobulin kappa chain variable region	0.028
3424	AJ314752	Anas platyrhynchos mIgM gene (partial), mIgA gene (partial) and IgA gene (partial), clone 13.1	0.072
3425	U51739	Ipomoea trifida secreted glycoprotein 2 (ISG2) mRNA, complete cds	0.64
3426	S66752	coagulation factor IX {3' region} [human, Genomic Mutant, 3130 nt]	0.026
3427	AE001122	Borrelia burgdorferi (section 8 of 70) of the complete genome	0.72
3428	AJ233850	Rattus norvegicus microsatellite sequence clone 27E9	2.1
3429	L35664	Homo sapiens (subclone H8 8_f5 from P1 35 H5 C8) DNA sequence	0.079
3430	U97029	Callithrix geoffroyi epsilon-globin gene, partial cds	2.1
3431	Z82181	Human DNA sequence from clone LL22NC01-86D10 on chromosome 22 Contains part of the SYN3 gene for synapsin III and ESTs, complete sequence [Homo sapiens]	0.71
3432	AB066544	Macaca fascicularis brain cDNA clone:QtrA-10780, full insert sequence	0.62
3433	L77039	Homo sapiens (subclone 2_e8 from P1 H22) DNA sequence	0.0000002
3434	AL590650	Human DNA sequence from clone RP11-334F20 on chromosome 6, complete sequence [Homo sapiens]	1.9

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3435	U93519	Kladothrips rugosus cytochrome oxidase subunit I (COI) gene, mitochondrial gene encoding mitochondrial protein, partial cds	0.77
3437	U23451	Caenorhabditis elegans cosmid ZK75	0.48
3438	BC003415	Homo sapiens, clone IMAGE:3451161, mRNA	0.41
3439	AK024526	Homo sapiens cDNA: FLJ20873 fis, clone ADKA02669	3.3
3440	AE002548	Neisseria meningitidis serogroup B strain MC58 section 190 of 206 of the complete genome	0.6
3441	AF116832	Anopheles minimus strain PT1 cytochrome oxidase subunit I (COI) gene, partial cds; mitochondrial gene for mitochondrial product	1.5
3442	AB055323	Macaca fascicularis brain cDNA, clone:QfIA-10308	1.6
3443	AK014667	Mus musculus 0 day neonate head cDNA, RIKEN full-length enriched library, clone:4833408P15, full insert sequence	7E-25
3444	U80753	Homo sapiens CAGL79 mRNA, partial cds	0.048
3445	AJ275304	Cicer arietinum mRNA for putative ABA-responsive protein	1.4
3446	AF336131	Lumpy skin disease virus strain Neethling, 3' partial sequence	0.3
3447	U11476	HIV-1 isolate LBLA010 from Liberty City, Florida, envelope glycoprotein (env) gene, partial cds	1.6
3448	XM_045582	Homo sapiens hypothetical gene supported by AL137476 (LOC92530), mRNA	6E-13
3449	AF030199	Mus musculus type 1 sigma receptor gene, complete cds	0.63
3450	AF345926	Myzopoda aurita 12S ribosomal RNA gene, complete sequence; tRNA-Val gene, complete sequence; and 16S ribosomal RNA gene, complete sequence; mitochondrial genes for mitochondrial products	0.13
3451	NM_008715	Mus musculus Notch2-like (Notch2l), mRNA	0.17
3452	AF067794	Nicotiana tabacum meristem-specific promoter sequence	0.1
3453	AJ287175	Mucor indicus partial act-1 gene for actin	2
3454	U89439	Bos taurus ubiquitin-like protein mRNA, complete cds	0.000003
3455	AF250346	Xenopus laevis early growth response protein 1 (egr1) gene, partial cds	0.072
3456	Z73587	S.cerevisiae chromosome XVI reading frame ORF YPL231w	0.19
3457	AB055310	Macaca fascicularis brain cDNA, clone:QfIA-14233	0.21
3458	Y16090	Daucus carota Susy*Dc1 gene	0.13
3459	AE003868	Xylella fastidiosa 9a5c, section 14 of 229 of the complete genome	0.16
3460	AF281912	Homo sapiens clone 16qtel_c89bt7 sequence	5E-36
3461	AF126541	Ateline herpesvirus 3 H-DNA terminal repeat unit, complete sequence	0.023
3462	AK011178	Mus musculus 10 days embryo cDNA, RIKEN full-length enriched library, clone:2600010E01, full insert sequence	1.5
3463	AF370226	Arabidopsis thaliana unknown protein (F1B16.11) mRNA, complete cds	0.4
3464	X94768	H.sapiens RP3 gene (XLRP gene 3)	0.21
3465	AB029068	Mus musculus gene for Ser/Thr kinase KKIAMRE, exon 1, 2, 3, 4, 5	0.57



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3490	XM_007196	Homo sapiens similar to ret finger protein 2; candidate tumor suppressor involved in B-CLL (H. sapiens) (LOC93519), mRNA	0.0000008
3491	AL049568	Human DNA sequence from clone SC22CB-23F1 on chromosome 22q13.31-13.33 Contains a GSS, complete sequence [Homo sapiens]	0.074
3492	X94755	A.thaliana mRNA for SNF1-related ser/thr protein kinase (1852 bp)	0.15
3493	AL392109	Human DNA sequence from clone RP13-459H7 on chromosome 10, complete sequence [Homo sapiens]	1.8
3494	S53497	immunoglobulin epsilon chain constant region=secreted form {3' region} [human, B cell myeloma U-266, Genomic, 3198 nt]	3.2
3495	X16027	R.norvegicus gene encoding alkaline phosphatase, exon 2	0.0009
3496	AF213918	Buchnera aphidicola plasmid pTrpEG isolate Mor26ps anthranilate synthase component I (trpE) pseudogene, partial sequence	0.004
3497	AE006491	Streptococcus pyogenes M1 GAS strain SF370, section 20 of 167 of the complete genome	0.33
3498	Z73587	S.cerevisiae chromosome XVI reading frame ORF YPL231w	0.089
3499	AK023040	Homo sapiens cDNA FLJ12978 fis, clone NT2RP2006321	2E-62
3500	AF062039	Homo sapiens integrin alpha-2 subunit (ITGA2) gene, ITGA2-1 allele, partial cds	0.65
3501	Z77974	H.sapiens flow-sorted chromosome 6 HindIII fragment, SC6pA5D12	0.036
3502	M13934	Human ribosomal protein S14 gene, complete cds	0.54
3503	NM_023220	Mus musculus RIKEN cDNA 2010106G01 gene (2010106G01Rik), mRNA	1.1
3504	AF140513	Homo sapiens clone 254LL2 genomic sequence	0.0004
3505	AL359558	Homo sapiens mRNA; cDNA DKFZp762O1615 (from clone DKFZp762O1615)	0.019
3506	XM_048768	Homo sapiens tetratricopeptide repeat domain 3 (TTC3), mRNA	0.00009
3507	AF074994	Homo sapiens full length insert cDNA YH91C06	0.65
3508	NC_001338	Sulfolobus virus 1, complete genome	0.008
3509	U67502	Methanococcus jannaschii section 44 of 150 of the complete genome	0.21
3510	AY035821	Schizosaccharomyces pombe Byr1-binding protein Bob1 (bob1) gene, complete cds	0.19
3511	AF275842	Plasmodium falciparum clone b.2 PfEMP1 (var) mRNA, partial cds	2
3512	AJ294714	Pichia anomala leu2 gene for beta-isopropylmalate dehydrogenase	0.19
3513	AL391240	Human DNA sequence from clone RP3-397P18 on chromosome 6, complete sequence [Homo sapiens]	3.4
3514	AE002304	Chlamydia muridarum, section 35 of 85 of the complete genome	1.8
3515	AF083830	Homo sapiens dihydropyridine receptor alpha 2 subunit (CACNA2D1) gene, exon 14	0.2

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3516	AE005222	Escherichia coli O157:H7 EDL933 genome, contig 1 of 3, section 46 of 155	1.7
3517	U04208	Escherichia coli 9142-88 cytolethal distending toxin (cdtA, cdtB, and cdtC) genes, complete cds	0.008
3518	Y07738	M.musculus gene for vimentin	0.65
3519	AF304091	Sotalia fluviatilis alpa lactalbumin gene, partial cds	2
3520	AF270356	Staphylococcus epidermidis strain SR1 clone step.4025c09 genomic sequence	0.52
3521	AF017516	Bombus pascuorum cytochrome b (cytb) gene, mitochondrial gene encoding mitochondrial protein, partial cds	1.8
3523	AF098919	Gallus gallus alpha-globin gene domain 5' region	2
3524	XM_047517	Homo sapiens Kruppel-like factor 4 (gut) (KLF4), mRNA	1E-39
3525	NC_001626	Petromyzon marinus mitochondrion, complete genome	0.021
3526	AF246647	Bemisia tabaci biotype Q 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	1.9
3527	AL391240	Human DNA sequence from clone RP3-397P18 on chromosome 6, complete sequence [Homo sapiens]	3.1
3528	M32779	AcNPV with an S.frugiperda insertion element IFP2.2	1.9
3529	L44121	Homo sapiens (clone pHK2.1D) CMT1A gene, repeat unit	6E-44
3530	U52350	Arabidopsis thaliana GTP-binding protein (ARAC5) mRNA, complete cds	0.007
3531	X80908	L.esculentum gene for fruit ripening polygalacturonase	0.65
3532	AF267203	Candidatus Carsonella ruddii natural-host Blastopsylla occidentalis ATP synthase alpha subunit (atpA) gene, partial cds; ATP synthase gamma subunit (atpG) gene, complete cds; and ATP synthase beta subunit (atpD) gene, partial cds	0.22
3533	AE001379	Plasmodium falciparum chromosome 2, section 16 of 73 of the complete sequence	0.25
3534	XM_034129	Homo sapiens hypothetical protein DKFZp761J1523 (DKFZp761J1523), mRNA	6
3535	AE002304	Chlamydia muridarum, section 35 of 85 of the complete genome	1.8
3536	AK024082	Homo sapiens cDNA FLJ14020 fis, clone HEMBA1002508	1.7
3537	U67547	Methanococcus jannaschii section 89 of 150 of the complete genome	0.22
3538	AF215629	Crypteronia paniculata chloroplast rpl16 gene, intron sequence	0.024
3539	X03853	Pea chloroplast gene for ribulose 1,5-bisphosphate carboxylase (rbcl)	0.008
3540	X85055	B.taurus cosmid-derived microsatellite DNA (clone IDVGA-40)	0.0009
3541	AK005508	Mus musculus adult female placenta cDNA, RIKEN full-length enriched library, clone:1600021C16, full insert sequence	0.63
3542	Y16262	Daucus carota mRNA for neutral invertase	0.21
3543	AL513491	Human DNA sequence from clone RP11-79A21 on chromosome X, complete sequence [Homo sapiens]	0.56
3544	XM_036298	Homo sapiens hypothetical gene supported by AL442095 (LOC91124), mRNA	0.02
3545	XM_049045	Homo sapiens KIAA0118 protein (KIAA0118), mRNA	0.46

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3546	AY020760	Oryza sativa microsatellite MRG3085 containing (TA) <sub>13</sub> , closest to marker R2976, genomic sequence	5.4
3547	AF198037	Mycoplasma pulmonis LipB (lipB) gene, complete cds; and VsaG (vsaG) and VsaE (vsaE) genes, partial cds	0.008
3548	X62658	E.faecalis plasmid pAD1 sea1 gene and orf	1.7
3549	AF083468	Emericella nidulans putative zinc finger protein (flbC) gene, complete cds	0.18
3550	AF315801	Homo sapiens chromosome Y AHCP pseudogene, complete sequence	1.9
3551	AC007042	Homo sapiens clone RP11-399H17, complete sequence	6
3552	AF198037	Mycoplasma pulmonis LipB (lipB) gene, complete cds; and VsaG (vsaG) and VsaE (vsaE) genes, partial cds	0.008
3553	AK025090	Homo sapiens cDNA: FLJ21437 fis, clone COL04285	0
3554	X76027	K.lactis APA2 gene for tetraphosphatase, QCR7 gene, bcl complex subunit VII	0.4
3555	Z78713	H.sapiens flow-sorted chromosome 6 HindIII fragment, SC6pA15A11	0.61
3556	U50357	Streptococcus zooepidemicus zoocin A immunity factor (zif) and zoocin A endopeptidase (zooA) genes, complete cds	0.13
3557	U93721	Homo sapiens green cone photoreceptor pigment gene, 5' flanking region	1.4
3558	AJ291489	Paracentrotus lividus mRNA for fibrosurfin (surfin2656 gene)	3.7
3559	M13820	Plasmid ColIb-p9 colicin Ib structural and immunity genes, complete cds	0.2
3560	Z54147	Human DNA sequence from cosmid L129H7, Huntington's Disease Region, chromosome 4p16.3 contains CpG island	2
3561	AJ301616	Homo sapiens DNC gene for deoxynucleotide carrier, exons 1-9	0.17
3562	U29403	Human immunodeficiency virus type 1 defective gag gene, clone 3-13, truncated cds	0.63
3563	AF090118	Plasmodium falciparum heat shock protein hsp104 (hsp104) gene, partial cds	0.21
3564	Z22707	S.scrofa spl IFN gene	0.57
3565	AF090889	Homo sapiens clone HQ0092	0.62
3566	XM_050705	Homo sapiens GalNAc-4-sulfotransferase 2 (GALNAC4ST-2), mRNA	0.15
3567	XM_016611	Homo sapiens similar to 8-oxoguanine DNA glycosylase (H. sapiens) (LOC93577), mRNA	0.052
3568	Z35914	S.cerevisiae chromosome II reading frame ORF YBR045c	0.59
3569	S69278	CYP1A2=3-methylcholanthrene responsive gene [Oncorhynchus mykiss=rainbow trout, liver, Genomic, 5023 nt]	1.5
3570	X56832	H.sapiens ENO3 gene for muscle specific enolase	0.21
3571	XM_011264	Homo sapiens KIAA0372 gene product (KIAA0372), mRNA	0
3572	NM_022628	Rattus norvegicus nephrin (Nphs1), mRNA	0.017
3573	AJ299718	Homo sapiens partial MASP2 gene, intron 7	6E-33
3574	Z69651	Human DNA sequence from cosmid L75B9, Huntington's Disease Region, chromosome 4p16.3	0.022



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3575	AF327739	<i>Streptococcus thermophilus</i> Peb1 (peb1), GlnQ (glnQ), response regulator Rr1 (rr1), Hpk2 (hpk2), YycJ-like protein (yycJ), and MurM (murM) genes, complete cds	0.59
3576	AC001656	<i>Drosophila melanogaster</i> (P1 DS00397 (D18)) DNA sequence, complete sequence	0.068
3577	AF262620	<i>Periplaneta americana</i> 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.2
3578	L08425	<i>Zea mays</i> auxin-binding protein (abp1) gene, exons 1-5 and complete cds	0.64
3579	M97702	<i>Drosophila melanogaster</i> glutathione S-transferase gene	1.8
3580	AF268059	<i>Candidatus Carsonella ruddii</i> natural-host <i>Arytaina geniotae</i> RNA polymerase beta subunit (rpoB) and RNA polymerase beta-prime subunit (rpoC) genes, partial cds	0.063
3581	U30149	<i>Entamoeba histolytica</i> pyruvate:ferredoxin oxidoreductase (pfo1) gene, complete cds	1.9
3582	X88893	<i>C.jacchus</i> intron 4 of visual pigment gene (green allele)	0.00008
3584	AK000939	<i>Homo sapiens</i> cDNA FLJ10077 fis, clone HEMBA1001864	0.19
3585	AL114356	<i>Botrytis cinerea</i> strain T4 cDNA library under conditions of nitrogen deprivation	5.6
3586	AF126992	<i>Oxytropis besseyi</i> var. <i>ventosa</i> chloroplast tRNA-Leu (trnL) gene, intron sequence	0.21
3587	Z47046	Human cosmid QLL2C9 from Xq28	5.7
3588	AE006246	<i>Lactococcus lactis</i> subsp. <i>lactis</i> IL1403 section 8 of 218 of the complete genome	5.3
3589	AY018921	<i>Oryza sativa</i> microsatellite MRG1246 containing (AT)X23, genomic sequence	0.71
3590	AL589705	Human DNA sequence from clone RP11-64M7 on chromosome 6, complete sequence [ <i>Homo sapiens</i> ]	0.069
3591	NM_010250	<i>Mus musculus</i> gamma-aminobutyric acid (GABA-A) receptor, subunit alpha 1 (Gabra1), mRNA	3.8
3592	AC024748	<i>Caenorhabditis elegans</i> cosmid Y110A2AR, complete sequence	0.017
3593	AJ002240	<i>Mus musculus</i> minisatellite tandem repeat (MMS9)	1.7
3594	AJ293574	<i>Brassica napus</i> gene for putative corticosteroid binding protein and partial gene for hypothetical protein, cultivar N-o-9	0.21
3596	AF324889	<i>Homo sapiens</i> myosin phosphatase target subunit 2 (MYPT2) gene, exon 1	0.22
3597	S62623	IGF2=insulin-like growth factor 2 {clone PPA1, exon 9} [human, Genomic, 811 nt]	5.4
3598	Z22707	<i>S.scrofa</i> spl IFN gene	0.57
3600	AB030490	<i>Glycine max</i> SG-05 gene for thiamin biosynthetic enzyme, complete cds	0.023
3602	S69278	CYP1A2=3-methylcholanthrene responsive gene [ <i>Oncorhynchus mykiss</i> =rainbow trout, liver, Genomic, 5023 nt]	1.7
3603	XM_029148	<i>Homo sapiens</i> hypothetical protein BC004923 (LOC85865), mRNA	0.002

**Table 3A** Nearest Neighbor (BlastN vs. Genbank)

SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3604	AJ002979	L. concinnum chloroplast DNA for intergenic spacer between tRNA-Thr (UGU) and tRNA-Leu (UAA) 5'exon, collected from W. Pakawau, Cape Farewell, South Island, New Zealand	0.067
3605	U36927	Plasmodium yoelii rhoptry protein gene, complete cds	0.2
3606	AK021502	Homo sapiens cDNA FLJ11440 fis, clone HEMBA1001319	0.00001
3607	AB033604	Capra hircus Hsp70-3 gene for 70 kDa heat shock protein, complete cds	0.18
3608	M81651	Human semenogelin II (SEMGII) gene, complete cds	1.8
3609	AB054512	Berardius bairdii DNA, SINE flanking sequence Tuti35 locus	0.49
3610	AF057740	Homo sapiens 17-beta-hydroxysteroid dehydrogenase IV (HSD17B4) gene, exon 24 and complete cds	0.018
3611	AJ295158	Homo sapiens gene for thymosin beta-4	1E-48
3612	X79402	B.taurus mRNA for plasminogen	0.21
3613	NC_001807	Human mitochondrion, complete genome	3E-20
3614	X92204	P.hybrida NAM gene	0.049
3616	AB032016	Homo sapiens PDNP1 gene for phosphodiesterase I/nucleotide pyrophosphatase 1, 5' flanking region and partial cds	0.009
3617	AF339159	Macropus rufogriseus mannanose-6-phosphate/insulin-like growth factor II receptor (m6p/igf2r) mRNA, partial cds	0.47
3618	AB025285	Homo sapiens c-ERBB-2 gene, exons 1', 2', 3', 4'	0.0000001
3619	AJ002550	Homo sapiens MMP-1 gene, promoter region	3.8
3620	AB004856	Buchnera aphidicola mRNA for homoserine kinase, partial cds	0.79
3621	AB010426	Phytoplasma sp. gene for AL1 like protein, complete cds	1.8
3622	L36903	Saccharomyces cerevisiae mitochondrion 21S ribosomal RNA (21S rRNA) gene, 21S R2 ribosomal RNA (21S R2 rRNA) gene, and ORF RI	0.022
3623	AF267642	Filobasidiella neoformans var. neoformans Myo2p-like protein gene	0.49
3624	XM_044499	Homo sapiens KIAA0484 protein (KIAA0484), mRNA	0.0001
3625	L04550	Homo sapiens DNA fragment	2.6
3626	AF210054	Homo sapiens bone morphogenetic protein 7 (BMP7) gene, promoter region and partial cds	2.5
3627	AL591505	Human DNA sequence from clone RP11-67112 on chromosome X, complete sequence [Homo sapiens]	0.001
3628	AL049969	Homo sapiens mRNA; cDNA DKFZp564A072 (from clone DKFZp564A072)	0.35
3629	AB055284	Macaca fascicularis brain cDNA, clone:QfIA-11654	0.15
3630	AF304448	Homo sapiens vitamin D receptor-interacting protein complex component DRIP150 (DRIP150) mRNA, complete cds	1.3
3631	AL133157	S.pombe chromosome I cosmid c1B2	0.6
3632	AC002475	Homo sapiens Chromosome 22q11.2 PCR Product dgcr-gap1 In DGCR Region, complete sequence	0.005
3633	AK003943	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1110028F11, full insert sequence	4E-18
3634	S78712	hemolin=48 kda C2-type immunoglobulin-like protein [Hyalophora cecropia=giant silkmoths, Genomic, 6622 nt]	3.5

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3635	AK023897	Homo sapiens cDNA FLJ13835 fis, clone THYRO1000712	2E-98
3636	X55978	T. brucei ESAG 8 gene for a leucine-rich repeat family protein	0.14
3637	XM_031534	Homo sapiens similar to uterine protein (M. musculus) (LOC90410), mRNA	5E-47
3638	AF044287	Drosophila melanogaster delta adaptin subunit of AP-3 (garnet) gene, complete cds	0.004
3639	AB060917	Macaca fascicularis brain cDNA clone:QtrA-14684, full insert sequence	1.1
3640	AK008522	Mus musculus adult male small intestine cDNA, RIKEN full-length enriched library, clone:2010305C02, full insert sequence	0.41
3641	NM_031340	Rattus norvegicus timeless (Drosophila) homolog (Timeless), mRNA	0.18
3642	AF334544	Homo sapiens chromosome Y landmark: proximal chromosome 1 translocation boundary distal to AZFc region	0.19
3643	XM_033642	Homo sapiens nucleophosmin (nucleolar phosphoprotein B23, numatrin) (NPM1), mRNA	1E-66
3645	AE001462	Helicobacter pylori, strain J99 section 23 of 132 of the complete genome	1.3
3646	L81761	Homo sapiens (subclone 6_c10 from P1 H17) DNA sequence, complete sequence	4E-12
3647	AJ271348	Homo sapiens partial DRD3 gene for dopamine D3 receptor, exon 1	0.19
3648	U58991	Simian immunodeficiency virus from African green monkey, tantalus species (SIVtan) proviral DNA, complete genome	0.16
3649	NM_014601	Homo sapiens EH-domain containing 2 (EHD2), mRNA	0.087
3650	NM_032717	Homo sapiens hypothetical protein MGC11324 (MGC11324), mRNA	0.62
3651	XM_004462	Homo sapiens signal sequence receptor, alpha (translocon-associated protein alpha) (SSR1), mRNA	0.79
3652	AY016336	Phragmites australis rpl36-rps8 intergenic spacer, chloroplast sequence	0.69
3653	Z63374	H.sapiens CpG island DNA genomic MseI fragment, clone 82b3, forward read cpg82b3.fl1a	0.22
3654	U10927	Staphylococcus aureus M type 1 capsular polysaccharide biosynthesis (capA, capB, capC, capD, capE, capF, capG, capH, capI, capJ, capK, capL, capM) genes, complete cds	0.026
3655	AE007446	Streptococcus pneumoniae section 129 of 194 of the complete genome	0.18
3656	BC006035	Mus musculus, clone IMAGE:3492938, mRNA, partial cds	5.3
3657	AF352740	Oncorhynchus mykiss clone OMM1055 microsatellite sequence	2.1
3658	NM_032141	Homo sapiens hypothetical protein DKFZp434K1421 (DKFZP434K1421), mRNA	0
3659	AF275231	Phloeomyzus passerinii 12S small subunit ribosomal RNA gene, partial sequence; tRNA-Val gene, complete sequence; and 16S large subunit ribosomal RNA gene, partial sequence; mitochondrial genes for mitochondrial products	0.077

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3660	AF017646	Schizosaccharomyces pombe TFIIF subunit p47 (tfh47) gene, complete cds	0.72
3661	AF200526	Zea mays cellulose synthase-2 (CesA-2) mRNA, complete cds	2.2
3662	AJ297654	Sus scrofa AACT2 gene for alpha-1-antichymotrypsin 2, exons 1-5	0.74
3663	XM_018189	Homo sapiens hypothetical protein FLJ13949 (FLJ13949), mRNA	0.74
3664	AE004047	Xylella fastidiosa 9a5c, section 193 of 229 of the complete genome	2.2
3665	XM_003012	Homo sapiens EphB1 (EPHB1), mRNA	6.9
3666	AF083240	Shewanella putrefaciens multi-cytochrome gene cluster, complete sequence; ferrous iron transporter (feoB), deca-heme c-type cytochrome (mtrC), c-type cytochrome precursor (mtrA), and outer membrane protein precursor (mtrB) genes, complete cds	0.085
3667	AF100304	Caenorhabditis elegans cosmid W07B3, complete sequence	0.74
3668	AP001348	Homo sapiens genomic DNA, chromosome 21q21.1-q21.2 clone:f39G8, LL56-APP region, complete sequence	2E-18
3669	AB005039	Alternaria alternata MAT2 gene, complete cds	6.4
3670	NM_009181	Mus musculus sialyltransferase 8 (alpha-2, 8-sialyltransferase) B (Siat8b), mRNA	0.22
3671	AB045894	Nepenthes alata NaAP4 mRNA for aspartic proteinase 4, complete cds	7
3672	M74944	Simian immunodeficiency virus (32H Re-isolate of SIVmac 251, clone W9) env gene, complete cds	0.25
3673	AF288211	Danio rerio Nkx5-1 mRNA, complete cds	0.072
3674	AC006753	Caenorhabditis elegans cosmid Y40A1A, complete sequence	0.02
3675	S53497	immunoglobulin epsilon chain constant region=secreted form {3' region} [human, B cell myeloma U-266, Genomic, 3198 nt]	6.8
3676	AL512305	Human DNA sequence from clone RP11-85E24 on chromosome 6, complete sequence [Homo sapiens]	0.009
3677	AF207862	Bos taurus bradykinin receptor B2 (BDKRB2) gene, promoter	5.8
3678	AF269417	Staphylococcus epidermidis strain SR1 clone step.1003e03 genomic sequence	5.1
3679	X53232	Rat mRNA for preoptic regulatory factor-2 (PORF-2)	2
3680	AB005039	Alternaria alternata MAT2 gene, complete cds	6.5
3681	AE003252	Drosophila melanogaster genomic scaffold 142000013385369, complete sequence	1.9
3682	U19744	Caenorhabditis elegans integrin beta pat-3 gene, complete cds	0.083
3683	XM_010829	Homo sapiens potassium channel, subfamily K, member 3 (TASK-1) (KCNK3), mRNA	0.25
3684	AF065853	Homo sapiens OR7E11P pseudogene, partial sequence	0.077
3685	AF325859	Choristoneura fumiferana antifreeze protein (AFP-Lu1) gene, complete cds	2.3
3686	XM_017134	Homo sapiens breast cancer 2, early onset (BRCA2), mRNA	0.23

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3687	AE002139	Ureaplasma urealyticum section 40 of 59 of the complete genome	0.17
3688	J00241	Human Ig germline kappa-L chain, C region (inv3 allele)	0.22
3689	U23855	Bos taurus von Willebrand factor gene, 5' flanking region and exon 1	0.78
3690	AK015465	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930455H04, full insert sequence	6.2
3691	XM_042056	Homo sapiens LOC86123 (LOC86123), mRNA	2
3692	AL137458	Homo sapiens mRNA; cDNA DKFZp434E2221 (from clone DKFZp434E2221)	0.086
3693	Z81079	Caenorhabditis elegans cosmid F39H11, complete sequence	2
3694	AF142998	Pteronotus parnellii NADH dehydrogenase subunit 1 (ND1) gene, partial cds; mitochondrial gene for mitochondrial product	0.69
3695	AK012282	Mus musculus 11 days embryo cDNA, RIKEN full-length enriched library, clone:2700023I24, full insert sequence	0.75
3696	AB032937	Cucumis sativus CS-ACS1 gene for 1-aminocyclopropane-1-carboxylate synthase, complete cds	1.5
3697	M92295	Gorilla gorilla gamma-1 and gamma-2 globin genes, complete cds	0.029
3698	AF034085	Caenorhabditis elegans UNC-45 (unc-45) gene, complete cds	0.0001
3699	AB048996	Macaca fascicularis brain cDNA, clone:QnpA-14055	0.25
3700	AK024527	Homo sapiens cDNA: FLJ20874 fis, clone ADKA02818	0.000001
3701	AK014489	Mus musculus 14 days embryo liver cDNA, RIKEN full-length enriched library, clone:4432412D04, full insert sequence	4.3
3702	NM_022599	Rattus norvegicus outer membrane protein (Omp25), mRNA	1E-14
3703	AF177242	Bodo saltans clone pBME40 mitochondrial minicircle DNA	0.021
3704	AF183329	Homo sapiens clone NIGMS NA10926D chromosome 10 paralogous sequence variant, genomic sequence	5E-61
3706	AF374728	Saxifragella bicuspidata maturase K (matK) gene, partial cds; chloroplast gene for chloroplast product	0.65
3707	AK010113	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2310068J16, full insert sequence	5E-29
3708	XM_045657	Homo sapiens McKusick-Kaufman syndrome (MKKS), mRNA	1.8
3709	AJ223690	H.sapiens D2-1-K2G7np gene for immunoglobulin kappa chain variable region	0.026
3710	XM_008389	Homo sapiens C1q-related factor (CRF), mRNA	0.026
3711	AF200526	Zea mays cellulose synthase-2 (CesA-2) mRNA, complete cds	2.3
3712	AE000049	Mycoplasma pneumoniae M129 section 31 of 63 of the complete genome	0.68
3713	XM_002495	Homo sapiens cyclic nucleotide gated channel alpha 3 (CNCA3), mRNA	2.1
3714	AF322106	Oncorhynchus mykiss lysozyme II precursor, gene, complete cds	0.7
3715	AK002007	Homo sapiens cDNA FLJ11145 fis, clone PLACE1006626, highly similar to Homo sapiens mRNA for KIAA0928 protein	0.029
3716	Z73978	Caenorhabditis elegans cosmid ZC302, complete sequence	0.23
3717	NM_023979	Rattus norvegicus apoptotic protease activating factor 1 (Apaf1), mRNA	0.52

**Table 3A** Nearest Neighbor (BlastN vs. Genbank)

SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3718	AF335504	Oryza sativa hemoglobin 1 (hb1), hemoglobin 3 (hb3), and hemoglobin 4 (hb4) genes, complete cds	0.077
3719	BC006943	Mus musculus, Similar to RIKEN cDNA 3230401N03 gene, clone MGC:6906 IMAGE:2655807, mRNA, complete cds	2
3720	AK007159	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:1700110I01, full insert sequence	6
3721	AF033002	Cerebratulus lacteus body wall globin gene, complete cds	0.026
3722	X95276	P.falciparum complete gene map of plastid-like DNA (IR-B)	0.2
3723	XM_012629	Homo sapiens DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 8 (RNA helicase) (DDX8), mRNA	1.4
3724	XM_042643	Homo sapiens hypothetical protein DKFZp434G131 (DKFZP434G131), mRNA	0.69
3725	AF145640	Drosophila melanogaster clone GH07346 BcDNA.GH07346 (BcDNA.GH07346) mRNA, complete cds	2.3
3726	X58823	Bovine COX7cP1 retroposed pseudogene for cytochrome c oxidase subunit VIIc	0.21
3727	XM_052301	Homo sapiens hypothetical protein MGC3199 (MGC3199), mRNA	6E-25
3728	U00176	Dictyostelium mucoroides DMUC2 clone p288m2 G1-like and G5-like ORFs' proteins, complete cds	0.00009
3729	AJ132901	Drosophila guanche mitochondrial A+T-rich region	0.071
3730	AL583762	Human chromosome 14 DNA sequence Partial sequence from BAC R-1109N18_PCR1 of library RPCI-11 from chromosome 14 of Homo sapiens (Human), complete sequence	7E-35
3731	AK021083	Mus musculus adult male corpus striatum cDNA, RIKEN full-length enriched library, clone:C030015A19, full insert sequence	1.5
3732	XM_001934	Homo sapiens PRO0529 protein (PRO0529), mRNA	1.4
3733	AJ235836	Labordia tinifolia chloroplast ndhF gene	2.2
3734	M81855	Rat mdr mRNA sequence	1.9
3735	NM_031649	Rattus norvegicus killer cell lectin-like receptor subfamily G, member 1 (Klrg1), mRNA	4.9
3736	Z78014	Caenorhabditis elegans cosmid F42E8, complete sequence	0.002
3737	XM_045320	Homo sapiens chondroitin sulfate proteoglycan 6 (bamacan) (CSPG6), mRNA	0.0005
3738	AF288788	Staphylococcus aureus rot-like protein Rlp (rlp) gene, complete cds	0.4
3739	D16417	Dictyostelium discoideum mRNA	0.008
3740	X15465	Hamster SPC14 LINE L1 repeat DNA	0.000003
3741	Y14544	Danio rerio mRNA for Hoxc8 protein	0.014
3742	M13897	Rattus norvegicus thyrotropin beta subunit (TSH-beta) gene, complete cds, clones RP100-14 and RP21	3.5
3743	AE001390	Plasmodium falciparum chromosome 2, section 27 of 73 of the complete sequence	0.018
3744	XM_035389	Homo sapiens ribosomal protein, large, P1 (RPLP1), mRNA	9E-36
3745	XM_007409	Homo sapiens alkylation repair, alkB homolog (ABH), mRNA	0.057



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3775	AC008855	Homo sapiens chromosome 5 clone CTD-2178M23, complete sequence	0.73
3776	AF267225	Candidatus Carsonella ruddii natural-host Tainarys sordida ATP synthase alpha subunit (atpA) gene, partial cds; ATP synthase gamma subunit (atpG) gene, complete cds; and ATP synthase beta subunit (atpD) gene, partial cds	0.024
3777	U67231	Human clone HS4.74 Alu-Ya5 sequence	2E-11
3778	XM_038985	Homo sapiens similar to HYPOTHETICAL PROTEIN KIAA0379 (H. sapiens) (LOC91526), mRNA	0.13
3779	X71625	H.sapiens dinucleotide repeat polymorphism cA14	0.057
3780	BC007480	Mus musculus, clone MGC:7570 IMAGE:3493227, mRNA, complete cds	0.59
3781	U60153	Human immunodeficiency virus type 1 isolate ID4-77, clone 12, from USA, envelope glycoprotein (env) gene, partial cds	0.013
3782	XM_050963	Homo sapiens hypothetical protein DKFZp564O1664 (DKFZP564O1664), mRNA	0
3783	AC024236	Homo sapiens BAC clone RP11-400117 from Y, complete sequence	0.0001
3784	M17627	Chicken alpha-A-crystallin gene, complete cds and 5' flank	0.077
3785	NM_031557	Rattus norvegicus Prostaglandin I2 (prostacyclin) synthase (Ptgis), mRNA	5.8
3786	Z79647	B.thayeri mitochondrial 16S rRNA gene	0.23
3787	AF032386	Nicotiana tabacum aldose-1-epimerase-like protein (GP40) mRNA, complete cds	0.077
3788	X89568	P.sativum mRNA for HMGI/Y protein	5.8
3789	Z71180	Caenorhabditis elegans cosmid F22E12, complete sequence	0.24
3790	AJ239079	Tetrahymena pyriformis partial gc4 gene for guanylyl cyclase, isoform 4	0.79
3791	AF310890	Dictyostelium discoideum PcmA (pcmA) and RacE (racE) genes, complete cds; tRNA-Phe gene, complete sequence; and unknown gene	0.00003
3792	L22300	Chilo iridescent virus type 6 zinc finger protein and non-histone chromosomal high mobility group protein homolog genes, complete cds	0.021
3793	AF155054	Rickettsia slovaca protein PS 120 (D) gene, partial cds	0.47
3794	X59799	M.musculus S-antigen gene promoter region	0.2
3795	AF330221	Oncorhynchus keta clone Oke4 microsatellite sequence	0.56
3796	XM_043227	Homo sapiens similar to proteasome (prosome, macropain) 26S subunit, non-ATPase, 13 (H. sapiens) (LOC92153), mRNA	6
3797	D17668	Clostridium septicum gene for alpha-toxin, complete cds	0.39
3798	AF165135	Mycoplasma mycoides mycoides SC strain Afade hypothetical proline rich glycoprotein, hypothetical surface-located membrane protein, lipoprotein B precursor (lppB), and hypothetical ABC transporter protein genes, complete cds; hypothetical ABC transport>	1.5



**Table 3A** Nearest Neighbor (BlastN vs. Genbank)

SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3799	AF379892	Rhagigaster sp. M222 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.068
3800	NM_024379	Rattus norvegicus glutamate receptor delta-2 subunit (Grid2), mRNA	1.5
3801	AF364550	Drosophila melanogaster transposon cruiser, complete sequence	5.4
3803	AJ315160	Xenopus tropicalis BMP-2 gene for bone morphogenetic protein 2	0.24
3804	AJ293015	Pisum sativum lox1:Ps:7 gene for lipoxygenase, exons 1-8	0.079
3805	Z82768	R.prowazekii genomic DNA fragment (clone A810F)	1.5
3806	NM_013780	Mus musculus neuronal PAS domain protein 3 (Npas3), mRNA	0.72
3807	U56088	Human periodic tryptophan protein 2 (PWP2) gene, exons 3 to 14	0.25
3808	D88987	Mus musculus Ampd3 gene, exon 4	0.18
3809	Z72680	S.cerevisiae chromosome VII reading frame ORF YGL158w	0.73
3810	M17988	Spiroplasma virus 4 (SpV4) replicative form, complete genome	5.3
3811	XM_039684	Homo sapiens putative G-protein coupled receptor (SH120), mRNA	0.17
3812	XM_039684	Homo sapiens putative G-protein coupled receptor (SH120), mRNA	0.19
3813	X60735	S.murinus Dq52 gene and immunoglobulin heavy chain S region gene loci	1.4
3814	XM_045862	Homo sapiens ring finger protein 10 (RNF10), mRNA	5E-14
3815	AB005521	Homo sapiens ppar gamma gene for peroxisome proliferator activated-receptor gamma, exon 1	1.6
3816	AF271964	Bos taurus microsatellite MNB-162 sequence	0.019
3817	AF274307	Zaocys dhumnades creatine kinase mRNA, complete cds	6.1
3818	BC010716	Mus musculus, clone MGC:6551 IMAGE:2655861, mRNA, complete cds	5.5
3819	AE004219	Vibrio cholerae chromosome I, section 127 of 251 of the complete chromosome	5.7
3820	AB060193	Macaca fascicularis brain cDNA clone:QccE-22277, full insert sequence	1.9
3821	AY007106	Homo sapiens clone TCCCIA00427 mRNA sequence	3E-45
3822	X02801	Mouse gene for glial fibrillary acidic protein (GFAP)	0.08
3824	AJ234506	Hordeum vulgare genomic DNA fragment; clone MWG0561.uni	2.1
3825	AK019864	Mus musculus 11 days pregnant adult female ovary and uterus cDNA, RIKEN full-length enriched library, clone:5031405K23, full insert sequence	1.8
3826	AK023304	Homo sapiens cDNA FLJ13242 fis, clone OVARC1000578	6.5
3827	AB062056	Homo sapiens p53DINP1 gene for p53DINP1a, p53DINP1b, complete cds, alternative splicing	0.055
3828	AF379858	Dendrocerus carpenteri 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.07
3829	X05621	Chironomus pallidivittatus BR1 gene for giant secretory protein	0.077

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3830	AF108841	Homo sapiens human endogenous retrovirus HERV-H10 pol protein (pol) gene, partial cds; env pseudogene and 3' LTR, complete sequence	0.009
3831	AF309030	Ixodes scapularis haplotype SSCP NC2_29 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.21
3832	AF268055	Candidatus Carsonella ruddii natural-host Glycaspis brimblecombei RNA polymerase beta subunit (rpoB) and RNA polymerase beta-prime subunit (rpoC) genes, partial cds	0.0007
3833	AY021307	Oryza sativa microsatellite MRG3632 containing (TA)X23, genomic sequence	0.009
3834	XM_034551	Homo sapiens dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 4 (DYRK4), mRNA	0.00003
3835	AK001647	Homo sapiens cDNA FLJ10785 fis, clone NT2RP4000457, weakly similar to UBIQUITIN CARBOXYL-TERMINAL HYDROLASE 15 (EC 3.1.2.15)	0
3836	XM_043492	Homo sapiens 42259 (KIAA1728), mRNA	5E-19
3837	U22345	Human chromosome 20q12 locus-specific repeat	0.003
3838	J05535	Bovine vascular smooth muscle connexin43 mRNA, complete cds	0.18
3839	AF290221	Cucumis sativus clone B80F mitochondrial genomic sequence	0.065
3840	NM_010059	Mus musculus disrupted meiotic cDNA 1 homolog (Dmc1h), mRNA	5.3
3841	NM_017681	Homo sapiens hypothetical protein FLJ20130 (FLJ20130), mRNA	2
3842	AE002114	Ureaplasma urealyticum section 15 of 59 of the complete genome	1.9
3843	AK022372	Homo sapiens cDNA FLJ12310 fis, clone MAMMA1001970	0.019
3844	U33633	Rice ragged stunt virus minor structural protein gene, complete cds	0.21
3845	AB062993	Macaca fascicularis brain cDNA clone:QmoA-10825, full insert sequence	4E-40
3846	AJ251485	Gorilla gorilla partial Imp7 gene for large multifunctional protease 7, exon 7 and tap2 gene for antigen peptide transporter 2, exons 1-6	0.71
3847	AP000145	Homo sapiens genomic DNA, chromosome 21q21.2, LL56-APP region, clone B2291C14-R44F3, segment 10/10, complete sequence	0.68
3848	XM_046052	Homo sapiens similar to ribosomal protein S3A (H. sapiens) (LOC65465), mRNA	0.017
3849	XM_012036	Homo sapiens potassium inwardly-rectifying channel, subfamily J, member 5 (KCNJ5), mRNA	5
3850	AB035883	Pseudoregma bambucicola mitochondrial genes for small subunit rRNA, tRNA-Val, large subunit rRNA, partial and complete sequences, country: Taiwan: Sun Moon Lake	0.077
3851	AB037688	Xenopus laevis Xptch-2 mRNA for patched-2, complete cds	1.8

**Table 3A** Nearest Neighbor (BlastN vs. Genbank)

SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3852	AB041264	Mus musculus pseudogene for GTP-binding protein beta1 subunit	0.53
3853	AF288170	Plasmodium falciparum isolate MM cytoadherence linked asexual protein (clag9) mRNA, partial cds	0.083
3854	AF304321	Neospora caninum RNA polymerase C1 (rpoC1) gene, partial sequence, plastid gene for plastid product	0.002
3855	AF133181	Peziza varia 18S ribosomal RNA gene, and internal transcribed spacer 1, partial sequence	2.1
3856	NM_012694	Rattus norvegicus Solute carrier family 6 (neurotransmitter transporter, dopamine), member 3 (Slc6a3), mRNA	0.56
3857	NM_030261	Mus musculus hypothetical protein MGC7182 (MGC7182), mRNA	6E-36
3858	AF231164	Pseudosymblepharis schimperiana tRNA-Leu, partial sequence; trnL-trnF intergenic spacer, complete sequence; and tRNA-Phe, partial sequence; chloroplast genes for chloroplast products	0.059
3859	Z36070	S.cerevisiae chromosome II reading frame ORF YBR201w	0.064
3860	Z24279	H. sapiens (D1S489) DNA segment containing (CA) repeat; clone AFM309ve9; single read	0.2
3861	XM_036937	Homo sapiens KIAA1020 protein (KIAA1020), mRNA	2.1
3862	AB033019	Homo sapiens mRNA for KIAA1193 protein, partial cds	1.6
3864	XM_030075	Homo sapiens hypothetical protein DKFZp434D0513 (DKFZp434D0513), mRNA	2E-74
3865	NM_023979	Rattus norvegicus apoptotic protease activating factor 1 (Apaf1), mRNA	0.59
3866	U50715	Mus musculus alpha-galactosidase A gene, complete cds	0.008
3867	AF078780	Caenorhabditis elegans cosmid C04F2	1.7
3869	L07305	Histoplasma capsulatum (clone pMS3) H-ATPase gene, complete cds	0.46
3870	XM_035796	Homo sapiens hypothetical gene supported by AF001893; AH005586 (LOC91063), mRNA	1.7
3871	NM_025788	Mus musculus RIKEN cDNA 4930511N13 gene (4930511N13Rik), mRNA	5.4
3872	AF339787	Homo sapiens clone IMAGE:205688, mRNA sequence	2
3873	AF028784	Rattus norvegicus glial fibrillary acidic proteins alpha and delta (GFAP) gene, alternatively spliced products, complete cds	0.005
3874	AF328904	Mus musculus lysyl-tRNA synthetase (Kars) gene, exon 14, complete cds; adenosine deaminase tRNA-specific 1 (Adat1) gene, exons EA, 1 and partial cds	0.22
3875	AF033647	Rhytidadelphus triquetrus 23S ribosomal RNA gene, partial sequence; internal transcribed spacer 2, 4.5S ribosomal RNA gene, internal transcribed spacer 3, and 5S ribosomal RNA gene, complete sequence, chloroplast genes for chloroplast RNAs	2
3876	BC006035	Mus musculus, clone IMAGE:3492938, mRNA, partial cds	5.6
3877	AF311856	Homo sapiens spectrin beta IV (SPTBN3) mRNA, complete cds, alternatively spliced	0.5
3878	AB041327	Anguilla japonica GnRH receptor mRNA for gonadotropin-releasing hormone receptor, complete cds	0.24

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3879	AF220175	Homo sapiens acid ceramidase (ASAH) gene, exons 5 through 14, and complete cds	0.0009
3880	X89398	H.sapiens ung gene for uracil DNA-glycosylase	0.002
3881	L14017	Staphylococcus aureus methicillin-resistance protein (mecR) gene and unknown ORF, complete cds	0.56
3882	M97008	Xenopus laevis/gilli hybrid IgM chain gene, clone LG7Gmu	0.007
3883	Z78414	Caenorhabditis elegans cosmid W09D12, complete sequence	0.63
3884	AL512549	S.pombe chromosome I BAC pB2B4	1.9
3885	AB030616	Mus musculus Chetk-alpha gene for choline/ethanolamine kinase-alpha, exon 1 and 5'-flanking region	6.4
3886	AF069535	Bradypus tridactylus 16S ribosomal RNA gene, mitochondrial gene for mitochondrial RNA, complete sequence	1.5
3887	AK023304	Homo sapiens cDNA FLJ13242 fis, clone OVARC1000578	0.056
3888	AB039756	Brassica rapa SP11-32 mRNA for S locus protein 11-32, partial cds, strain:S32(50-11t)	1.9
3889	AL512405	Human DNA sequence from clone RP11-370N21 on chromosome 6, complete sequence [Homo sapiens]	1.6
3890	AF147813	Protrama radicis elongation factor 1 alpha gene, partial cds	0.18
3891	XM_046967	Homo sapiens region containing variable charge protein on X with eight repeats; variable charge protein on X with two repeats; variable charge, X chromosome (LOC92738), mRNA	0.21
3892	XM_037664	Homo sapiens hypothetical protein MGC4090 (MGC4090), mRNA	1.5
3893	AJ296142	Silene foetida partial rpb2 gene for RNA polymerase II, exons 23 and 24	0.16
3894	AF360340	Arabidopsis thaliana putative pectinesterase (K19E1.17/AT5g53370) mRNA, complete cds	2.7
3895	AF327975	Hentzia palmarum 16S ribosomal RNA, partial sequence; mitochondrial gene for mitochondrial product	0.55
3896	Z15140	L.esculentum mRNA for chitinase	2.1
3897	U57326	Chlamydomonas reinhardtii chloroplast complete Eco10 fragment, rpoC2 gene, partial cds	0.001
3898	AK024908	Homo sapiens cDNA: FLJ21255 fis, clone COL01321	0.003
3899	NC_002087	Plasmid pRL765, complete sequence	0.62
3900	AF063220	Papaya ringspot virus isolate P polyprotein gene, partial cds	0.25
3901	AE002173	Chlamydomonas pneumoniae AR39, section 9 of 94 of the complete genome	0.25
3902	BC001152	Homo sapiens, growth arrest-specific 7, clone MGC:1347 IMAGE:3353809, mRNA, complete cds	5.9
3903	AB011800	Agrobacterium tumefaciens plasmid pRiA4 gene, virB operon	5.4
3904	BC010389	Homo sapiens, clone MGC:13615 IMAGE:4283814, mRNA, complete cds	0.084
3905	AF091779	Oncorhynchus mykiss non-classical MHC class I antigen (Onmy-UAA) gene, Onmy-UAA*0101 allele, complete cds	2.3
3906	AF222716	Plasmodium falciparum clone 3D7 unconventional myosin PfM-B gene, complete cds	6.2

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3907	Z48951	S.cerevisiae chromosome XVI cosmid 9723	2.5
3908	XM_040326	Homo sapiens absent in melanoma 1 (AIM1), mRNA	0.056
3909	AF271964	Bos taurus microsatellite MNB-162 sequence	0.019
3910	BC003261	Mus musculus, serine/threonine kinase 5, clone MGC:5803 IMAGE:3501444, mRNA, complete cds	0.056
3911	AJ011641	Arabidopsis thaliana (ecotype Columbia) spl8 gene, exons 1-3	1.7
3912	AK000864	Homo sapiens cDNA FLJ10002 fis, clone HEMBA1000046	0.53
3913	XM_045747	Homo sapiens midline 1 (Opitz/BBB syndrome) (MID1), mRNA	2E-33
3914	AF269581	Staphylococcus epidermidis strain SR1 clone step.1011g07 genomic sequence	0.057
3915	XM_042333	Homo sapiens casein kinase 2, beta polypeptide (CSNK2B), mRNA	1.9
3916	AF269810	Staphylococcus epidermidis strain SR1 clone step.1023h06 genomic sequence	0.022
3917	AJ404228	Saccharomyces douglasii mitochondrial tRNA gene cluster	0.21
3918	XM_027223	Homo sapiens hypothetical gene supported by AK021954 (LOC89916), mRNA	0.61
3919	AJ011641	Arabidopsis thaliana (ecotype Columbia) spl8 gene, exons 1-3	2
3920	AF020725	Gallus gallus unoccupied integration site for endogenous ALV-type retroviral element ev-B2	2
3921	AL157825	Human DNA sequence from clone RP11-518C21 on chromosome Xq13.2-21.1, complete sequence [Homo sapiens]	1.2
3922	AF203676	Myotis myotis microsatellite H23 sequence	0.2
3923	XM_010734	Homo sapiens smg GDS-ASSOCIATED PROTEIN (Kifap3), mRNA	0.66
3924	AF056048	Heterodera glycines beta-1,4-endoglucanase-3 precursor (eng-3) gene, promoter and complete cds	0.026
3925	XM_042676	Homo sapiens hypothetical protein MGC4618 (MGC4618), mRNA	2.2
3926	AL359750	Human DNA sequence from clone RP11-24A10 on chromosome 13, complete sequence [Homo sapiens]	0.024
3927	NM_019054	Homo sapiens hypothetical protein MGC5560 (MGC5560), mRNA	2E-31
3928	AL023845	Caenorhabditis elegans cosmid Y51B9A, complete sequence	0.25
3929	BC001781	Homo sapiens, ribosomal protein L44, clone MGC:2064 IMAGE:3353669, mRNA, complete cds	7E-43
3930	AK004553	Mus musculus adult male lung cDNA, RIKEN full-length enriched library, clone:1200002O22, full insert sequence	0.51
3932	X17339	Dengue-2 virus NS1 gene for nonstructural protein (patient M2)	0.23
3933	AE004278	Vibrio cholerae chromosome I, section 186 of 251 of the complete chromosome	0.35
3934	U41064	Drosophila melanogaster putative extracellular ligand trunk gene, complete cds	0.53
3935	AF005900	Homo sapiens alpha2B-adrenergic receptor (alpha2C2AR) gene, complete cds	5.2
3936	AK024599	Homo sapiens cDNA: FLJ20946 fis, clone ADSE01819	5

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3937	K00489	human enkephalin gene, intron c (3' end) and 3' flank	0.24
3938	U92545	Gallus gallus tubby-like protein (TULP1) mRNA, complete cds	1.8
3939	Z69363	Human DNA sequence from cosmid L60G9B, Huntington's Disease Region, chromosome 4p16.3 contains ESTs	0.55
3941	U82516	Dictyostelium discoideum random slug cDNA22 protein (rsc22) mRNA, complete cds	1.8
3942	NM_026077	Mus musculus RIKEN cDNA 3110040N11 gene (3110040N11Rik), mRNA	e-107
3943	AF241235	Homo sapiens Na <sup>+</sup> ,K <sup>+</sup> -ATPase gamma-subunit (FXVD2) gene, alternatively spliced isoforms 1 and 2, exons 1 through 6 and complete cds	0.00002
3944	M38180	Human 3-beta-hydroxysteroid dehydrogenase/delta-5-delta-4-isomerase (3-beta-HSD) gene, complete cds	0.64
3945	AJ275020	Homo sapiens partial FAH gene for fumarylacetoacetate hydrolase, intron 10	0.71
3946	AB042198	Mus musculus mac25 gene promoter and exon 1, partial cds	1.9
3947	AF082520	Cryptosporidium parvum Hsp60 gene, partial cds	0.68
3948	Z48051	H.sapiens gene for myelin oligodendrocyte glycoprotein (MOG)	0.71
3949	AF269768	Staphylococcus epidermidis strain SR1 clone step.1023b09 genomic sequence	0.59
3950	AK022181	Homo sapiens cDNA FLJ12119 fis, clone MAMMA1000092	0.62
3951	AF186889	Chlosyne janais 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.056
3952	AB026544	Hyoscyamus niger tr1 gene for tropinone reductase-I, complete cds	0.17
3954	M32666	Homo sapiens ITGB3 gene, intron 1, partial sequence	2
3955	Z72888	S.cerevisiae chromosome VII reading frame ORF YGR103w	0.009
3956	AB038979	Homo sapiens gene for caspase-10, exon 11 and complete cds	0.001
3958	AF148987	Legionella fallonii macrophage infectivity potentiator (mip) gene, partial cds	0.075
3959	AF159173	Gallus gallus structural muscle protein titin mRNA, partial cds	1.2
3960	U34931	Mycoplasma pulmonis FtsZ (ftsZ) gene, complete cds, methionyl-tRNA synthetase (metG) gene, partial cds	0.21
3961	AF072439	Rattus norvegicus zinc-finger protein-37 mRNA, complete cds	0.58
3962	AF079877	Mus musculus cyclin G2 (Ccng2) gene, complete cds	0.049
3963	X87947	S.cerevisiae ALG2 gene	0.024
3964	BC004730	Mus musculus, proteasome (prosome, macropain) subunit, beta type 10, clone MGC:5837 IMAGE:3583052, mRNA, complete cds	6.8
3965	BC010610	Homo sapiens, clone IMAGE:4214515, mRNA, partial cds	2E-11
3966	AK012050	Mus musculus 10 days embryo cDNA, RIKEN full-length enriched library, clone:2610319A01, full insert sequence	e-144
3967	BC000240	Homo sapiens, chromosome 4 open reading frame 1, clone IMAGE:3352004, mRNA	1.9
3969	AE007346	Streptococcus pneumoniae section 29 of 194 of the complete genome	4.4

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3970	AK021969	Homo sapiens cDNA FLJ11907 fis, clone HEMBB1000059	0.005
3971	U05765	Human annexin V (ANX5) gene, exon 7	4.9
3972	S68117	rPLP-A=prolactin-like protein A {5' region, exon 1, intron 1} [rats, Genomic, 1187 nt]	0.11
3973	AL358852	Human DNA sequence from clone RP1-317N9 on chromosome 6, complete sequence [Homo sapiens]	0.18
3974	M26221	African green monkey origin of replication (ORS8) region	0.01
3975	M22064	Mouse MHC class I Lyt-2-a gene encoding lyt-2.1 T-cell surface alloantigen, complete cds	0.71
3976	AY039917	Arabidopsis thaliana putative wall-associated kinase 1 (F16F4.6) mRNA, complete cds	3.5
3977	U67488	Methanococcus jannaschii section 30 of 150 of the complete genome	0.021
3979	XM_027089	Homo sapiens N-acetylated alpha-linked acidic dipeptidase 2 (NAALAD2), mRNA	1E-09
3980	AF062751	Manduca sexta soluble guanylyl cyclase beta-1 subunit mRNA, complete cds	0.53
3981	AP000214	Homo sapiens genomic DNA, chromosome 21q22.1, D21S226-AML region, clone f43D11-119B8, segment 12/12, complete sequence	0.0003
3982	AF360278	Arabidopsis thaliana putative MLH1 protein (AT4g09140) mRNA, complete cds	0.0001
3983	AF187968	2 Homo sapiens concentrative nucleoside transporter (CNT1) gene, exon 2	0.085
3984	AY032741	Drosophila melanogaster H.M.S. Beagle transposon long terminal repeat, complete sequence; and heat shock protein Hsp70Ab gene, promoter and partial cds	0.6
3985	NM_008697	Mus musculus ninein (Nin), mRNA	4
3986	AB055369	Macaca fascicularis brain cDNA, clone:QflA-12661	0
3987	X15999	Kluyveromyces lactis mitochondrial tRNA-Val, COII and COI (partial)	0.023
3988	AC008855	Homo sapiens chromosome 5 clone CTD-2178M23, complete sequence	0.56
3989	X79482	I.punctatus Immunoglobulin mu heavy chain gene	0.00007
3990	AF051289	Dalbulus charlesi NADH dehydrogenase subunit 1 gene, mitochondrial gene encoding mitochondrial protein, complete cds	0.072
3991	BC004382	Homo sapiens, clone IMAGE:3640982, mRNA, partial cds	e-147
3992	XM_041432	Homo sapiens hypothetical gene supported by AL117603 (LOC91908), mRNA	1.3
3993	NM_027142	Mus musculus RIKEN cDNA 2310012P17 gene (2310012P17Rik), mRNA	0.027
3994	AB022673	Oryza sativa rpl12-1 gene for chloroplast ribosomal protein L12, complete cds	0.69
3995	AB009987	Bombyx mori nuclear polyhedrosis virus gene for putative DNA-directed RNA polymerase component lef8, complete cds	0.2
3996	NM_000144	Homo sapiens Friedreich ataxia (FRDA), mRNA	0.008

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
3997	XM_002395	Homo sapiens LBP protein; likely ortholog of mouse CRTR-1 (LBP-9), mRNA	0.58
3998	AF056532	Brassica napus cultivar Darmor AP31 gene, AP31-DN allele, partial cds	2
3999	Z72888	S.cerevisiae chromosome VII reading frame ORF YGR103w	0.008
4000	AL512660	Human DNA sequence from clone RP11-353M9 on chromosome 10, complete sequence [Homo sapiens]	5.3
4001	AF190131	Cloning vector pVO205 hygromycin-B-phosphotransferase (hph) gene, complete cds	1.7
4002	AJ132557	Oryctolagus cuniculus CYP19 gene, ovarian promoter region	0.069
4003	AB001901	Homo sapiens PACE4 gene, exon 4-7	4
4004	AE006784	Sulfolobus solfataricus section 143 of 272 of the complete genome	0.19
4005	XM_049237	Homo sapiens KIAA0841 protein (KIAA0841), mRNA	1.7
4006	AF107676	Aedes aegypti clone 416 Feilai family of SINES	0.54
4007	AB053857	TT virus gene for ORF1, partial cds, clone: Pd-10-3	0.24
4008	AC078798	Homo sapiens 3 BAC PAC-56F11 (Roswell Park Cancer Institute Human BAC Library) complete sequence	5
4009	NM_026040	Mus musculus RIKEN cDNA 2810036K01 gene (2810036K01Rik), mRNA	2E-33
4011	XM_027300	Homo sapiens DKFZP434K114 protein (DKFZP434K114), mRNA	4E-08
4012	AY021973	Oryza sativa microsatellite MRG4298 containing (TA)X104, closest to marker S10620, genomic sequence	0.0009
4013	AB003097	Fruitfly strain g20 mitochondrial DNA, A+T-rich region, partial sequence	0.000003
4014	AJ000682	Bos taurus PPARG gene, intron 1, 5'	0.1
4015	AE001504	Helicobacter pylori, strain J99 section 65 of 132 of the complete genome	0.64
4016	NM_031442	Homo sapiens hypothetical protein DKFZp761J17121 (DKFZP761J17121), mRNA	0.007
4017	U10698	Rattus norvegicus liver microsomal carboxylesterase mRNA, complete cds	0.21
4018	AF009255	Homo sapiens putative chloride channel gene (CLCN6), exons 14, 15, 16, and 17	1.7
4019	NM_010657	Mus musculus kappa B and Rss recognition component (Krc), mRNA	0.17
4020	AY021100	Oryza sativa microsatellite MRG3425 containing (TA)X19, closest to marker L246, genomic sequence	4.7
4021	U43092	Rattus norvegicus surfactant protein-A (SP-A) gene, complete cds	0.9
4022	XM_050127	Homo sapiens oligophrenin 1 (OPHN1), mRNA	0.64
4023	AE005576	Escherichia coli O157:H7 EDL933 genome, contig 3 of 3, section 195 of 290	0.45
4024	AF288693	Mus musculus Ube1l (Ube1l) gene, partial cds	0.0008
4025	AF203748	Taphozous sp. Brca1 (Brca1) gene, partial cds	5.6



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4026	AF179234	Homo sapiens short-chain dehydrogenase/reductase 1 (SDR1) gene, exon 1	0.56
4027	AF163735	Illicium parviflorum internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence	0.62
4028	NM_026233	Mus musculus RIKEN cDNA 4933434I20 gene (4933434I20Rik), mRNA	6.5
4029	AL031426	Human DNA sequence from clone CTA-191D12 on chromosome 22q13.1 Contains two exons of the APOL2 gene for apolipoprotein L 2, ESTs and GSSs, complete sequence [Homo sapiens]	0.000001
4030	XM_008148	Homo sapiens myeloid/lymphoid or mixed-lineage leukemia (trithorax (Drosophila) homolog); translocated to, 6 (MLLT6), mRNA	0.63
4031	AF007904	Chaetopterus variopedatus histone H4 and histone H2A genes, complete cds	0.009
4032	XM_051353	Homo sapiens C-type (calcium dependent, carbohydrate-recognition domain) lectin, superfamily member 5 (CLECSF5), mRNA	0.69
4033	U88154	Homo sapiens proline and glutamic acid rich nuclear protein isoform mRNA, partial cds	0.074
4034	AC023838	Arabidopsis thaliana chromosome III P1 MJM20 genomic sequence, complete sequence	0.2
4035	X15894	Sinapsis alba cab-1 gene for chlorophyll a/b-binding polypeptide	0.1
4036	X54742	Nicotiana plumbaginifolia beta-(1,3)-glucanase gene for a vacuolar isoform	1.8
4037	NM_017590	Homo sapiens hypothetical protein DKFZp434K0920 (DKFZp434K0920), mRNA	0.13
4038	U92482	Equus caballus interleukin-1 receptor antagonist (EqIL-1RA) mRNA, complete cds	0.38
4039	U47540	Aspergillus nidulans nitrogen regulatory protein (tamA) gene, complete cds	0.18
4040	AK001076	Homo sapiens cDNA FLJ10214 fis, clone HEMBA1006530	0.0000009
4041	AC002049	Homo sapiens Chromosome 22q11.2 Cosmid Clone 107d7 In BCRL2-GGT Region, complete sequence	1.3
4042	U55243	Dictyostelium discoideum glyceraldehyde-3-phosphate dehydrogenase (GAPDH) gene, partial cds	0.23
4043	Z16701	H. sapiens (D1S218) DNA segment containing (CA) repeat; clone AFM157xe7; single read	0.002
4044	AB012733	Rhododendron semibarbatum chloroplast matK gene for ribosomal maturase, complete cds	0.024
4045	AF034950	Bos taurus gonadotropin hormone receptor (GnRH) gene, partial cds	0.22
4046	AJ307017	Mus musculus mRNA for putative ubiquitin-specific protease (Usp9y gene)	1.7
4047	AE001159	Borrelia burgdorferi (section 45 of 70) of the complete genome	0.89
4048	AF239215	Forficula auricularia microsatellite FA2 sequence	0.0002

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4049	AP000249	Homo sapiens genomic DNA, chromosome 21q22.1, D21S226-AML region, clone:B762O15, complete sequence	1E-18
4050	AP000249	Homo sapiens genomic DNA, chromosome 21q22.1, D21S226-AML region, clone:B762O15, complete sequence	2E-18
4051	AF355470	Mus musculus cysteine dioxygenase gene, exon 2	0.61
4052	BC010739	Homo sapiens, hypothetical protein FLJ12612 similar to COP9 (constitutive photomorphogenic), subunit 7b (Arabidopsis), clone MGC:16836 IMAGE:3893022, mRNA, complete cds	4.5
4053	AK016525	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4932415G12, full insert sequence	1.5
4054	AJ237609	Borrelia recurrentis vmpA1 gene, silent copy	1.8
4055	U00038	Caenorhabditis elegans cosmid T21D11, complete sequence	4.3
4056	AF268053	Candidatus Carsonella ruddii natural-host Tainarys sordida RNA polymerase beta subunit (rpoB) and RNA polymerase beta-prime subunit (rpoC) genes, partial cds	0.067
4057	AC016694	Homo sapiens BAC clone RP11-123G1 from Y, complete sequence	0.2
4058	AK019557	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930402H05, full insert sequence	0.15
4059	AF233898	Escherichia coli strain KI1218 BfpA (bfpA) gene, partial cds	0.063
4060	AK026269	Homo sapiens cDNA: FLJ22616 fis, clone HSI05164	5.7
4061	Z80362	H.sapiens HLA-DRB pseudogene, exon 1;	1.7
4062	XM_046282	Homo sapiens hypothetical gene supported by AK026722 (LOC92635), mRNA	0.007
4063	U83303	Human line-1 reverse transcriptase gene, partial cds, and granulocyte chemotactic protein-2 (GCP-2) gene, complete cds	5E-12
4064	AF276169	Scaphirhynchus platyrhynchus microsatellite Spl-100 sequence	0.074
4065	AF156797	Mus musculus ATP synthase coupling factor 6 gene, 5' UTR; and GABP-alpha subunit gene, promoter and 5' UTR, partial sequence	1.2
4066	AF110420	Mus musculus hoTgN37INRA locus sequence	4E-10
4067	AK021659	Homo sapiens cDNA FLJ11597 fis, clone HEMBA1003856	6E-10
4068	AL512724	Homo sapiens mRNA; cDNA DKFZp547M202 (from clone DKFZp547M202)	0.2
4069	S54531	L-plastin {exon 1, promoter} [human, Genomic, 3231 nt]	0.023
4070	L02110	Mus musculus proviral retroviral insertion in the cGMP-phosphodiesterase (rd beta PDE) gene, intron 1, with the proviral insert encompassing the env pseudogene (3' end) and 3' LTR	2.1
4071	XM_015244	Homo sapiens ring finger protein 21, interferon-responsive (RNF21), mRNA	1.5
4072	AK015420	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930448I18, full insert sequence	0.003
4073	U67583	Methanococcus jannaschii section 125 of 150 of the complete genome	0.021
4074	X05640	Mouse NF-M gene for middle-molecular-mass neurofilament protein	0.072

009200 52022600

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4075	D01021	Anthocidaris crassispina mRNA for dynein beta-heavy chain, complete cds	0.61
4076	XM_029072	Homo sapiens LOC89256 (LOC89256), mRNA	0.006
4077	NM_017757	Homo sapiens hypothetical protein FLJ20307 (FLJ20307), mRNA	0.26
4078	AF145592	Nicotiana tabacum calcium/calmodulin-dependent protein kinase (CCaMK) gene, exons	0.002
4079	AF384970	Arabidopsis thaliana somatic embryogenesis receptor-like kinase 3 (SERK3) mRNA, complete cds	5.3
4080	AF238313	Dictyostelium discoideum developmental protein DG1037 (DG1037) gene, partial cds	0.2
4081	NM_012519	Rattus norvegicus Ca <sup>++</sup> /calmodulin-dependent protein kinase II, delta subunit (Camk2d), mRNA	0.071
4082	AL590384	Human DNA sequence from clone RP11-349A16 on chromosome Xq22.3-24, complete sequence [Homo sapiens]	0.11
4083	AF391284	Homo sapiens 11p15.5 clone LOH11A, partial sequence	0.17
4086	XM_034197	Homo sapiens KIAA1505 protein (KIAA1505), mRNA	e-153
4087	AE007255	Sinorhizobium meliloti plasmid pSymA section 61 of 121 of the complete plasmid sequence	5.4
4088	AE006586	Streptococcus pyogenes M1 GAS strain SF370, section 115 of 167 of the complete genome	1.6
4089	AF391284	Homo sapiens 11p15.5 clone LOH11A, partial sequence	0.14
4090	U41549	Caenorhabditis elegans cosmid F22F1	0.065
4091	AF231164	Pseudosymplepharis schimperiana tRNA-Leu, partial sequence; trnL-trnF intergenic spacer, complete sequence; and tRNA-Phe, partial sequence; chloroplast genes for chloroplast products	0.066
4092	XM_005131	Homo sapiens chromatin accessibility complex 1 (CHRAC1), mRNA	0.39
4093	NM_025929	Mus musculus RIKEN cDNA 2010109I03 gene (2010109I03Rik), mRNA	5.1
4094	X82784	D.discoideum mRNA for calcium binding protein	0.00001
4095	U04524	Caedibacter taeniospiralis 47 R body synthesis and assembly (rebA rebB, rebC, rebD) genes, complete cds	0.58
4096	XM_050063	Homo sapiens B-cell CLL/lymphoma 9 (BCL9), mRNA	0.075
4097	XM_037650	Homo sapiens syndecan 1 (SDC1), mRNA	2
4098	AF286472	Homo sapiens retinitis pigmentosa GTPase regulator (RPGR) gene, exon ORF15 partial cds	0.076
4099	L05466	Pneumocystis carinii beta-tubulin gene, complete cds	0.009
4100	Z69723	Human DNA sequence from cosmid U238E5, between markers DXS6791 and DXS8038 on chromosome X	0.18
4101	D83657	Human DNA for CAAF1 (calcium-binding protein in amniotic fluid 1), complete cds	5E-30
4102	AL117050	Botrytis cinerea strain T4 cDNA library under conditions of nitrogen deprivation	2.1
4103	AE004168	Vibrio cholerae chromosome I, section 76 of 251 of the complete chromosome	2.3

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4104	BC007114	Homo sapiens, clone IMAGE:4295422, mRNA	0.22
4105	D13859	Penicillium chrysogenum mitochondrion genes for rRNA, tRNA and S5 ribosomal protein, complete cds	0.75
4106	AF137068	Canis familiaris cubilin (CUBN) mRNA, complete cds	4.3
4107	AK012387	Mus musculus 11 days embryo cDNA, RIKEN full-length enriched library, clone:2700047H13, full insert sequence	0.38
4108	NC_001942	Mycoplasma arthritidis bacteriophage MAV1, complete genome	0.12
4109	AF333431	Homo sapiens pseudo attP site psiD, partial sequence	0.45
4110	AF305628	Cubitermes subarquatus microsatellite P19 sequence	0.68
4111	D10997	C.ellipsoidea rbcL, rps14, trnM, trnG, trnD, trnS, rps4, atpE, atpB genes, complete cds	1.8
4112	Z99704	Human DNA sequence from clone LL22NC01-75B8 on chromosome 22 Contains GSSs, complete sequence [Homo sapiens]	0.005
4113	XM_016579	Homo sapiens androgen-induced prostate proliferative shutoff associated protein (KIAA0979), mRNA	1.6
4114	NM_008149	Mus musculus glycerol-3-phosphate acyltransferase, mitochondrial (Gpam), mRNA	5.5
4115	XM_036116	Homo sapiens KIAA0594 protein (KIAA0594), mRNA	e-144
4116	XM_030510	Homo sapiens microfibrillar-associated protein 2 (MFAP2), mRNA	2.4
4117	AB010203	Leptospira interrogans gene, 19kb region containing 5S rRNA gene	1.4
4118	XM_007094	Homo sapiens collagen, type IV, alpha 1 (COL4A1), mRNA	1.9
4120	AF124049	Fugu rubripes double stranded RNA adenosine deaminase RED1B gene, complete cds	0.066
4121	AY007236	Pneumocystis carinii pheromone receptor a mRNA, complete cds	0.53
4122	AF307966	Aptostichus simus clone PD1 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	2
4123	AJ001022	Marmata monax mRNA for tumor suppressor, p53	1.3
4124	AF239469	Polycynis gratiosa maturase (matK) gene, partial cds; chloroplast gene for chloroplast product	0.65
4125	X75675	C.parapsilosis mitochondrial ND6 and ND1 genes	0.00001
4126	AF335589	Glycine max chitinase class I (Chia1) and hypothetical protein genes, complete cds	0.0003
4127	U33175	Oryza sativa sucrose phosphate synthase gene, complete cds	6.4
4128	AB028198	Arabidopsis thaliana ZF14 mRNA, complete cds	0.008
4129	AF372653	Heteropneustes fossilis prolactin hormone (PRL) mRNA, complete cds	1.3
4130	M63955	S.oedipus MHC class I SO-NI gene	0.6
4131	BC003238	Mus musculus, protein kinase, cAMP dependent, catalytic, alpha, clone MGC:6169 IMAGE:3497908, mRNA, complete cds	0.22
4132	AJ001688	Homo sapiens NKG2D gene, exons 6-9	0.67
4133	D10872	Humam h NAT allele 3-2 gene for arylamine N-acetyltransferase	0.016

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4134	AF049877	Cotesia congregata EP1 locus with complete integrated Cotesia congregata virus EP1 circle and partial integrated A circle	0.19
4135	Y15783	Rickettsia prowazekii groESL gene	0.3
4136	Y00354	Xenopus laevis gene encoding vitellogenin A2	0.077
4137	NC_001950	Scyliorhinus canicula mitochondrion, complete genome	0.019
4138	AF266048	Macromia splendens small subunit ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.42
4139	AL035426	Human DNA sequence from clone 370N13 on chromosome Xq25-26.3. Contains an exon of the GRIA3 gene for glutamate receptor, ionotropic, AMPA 3. Contains ESTs, complete sequence [Homo sapiens]	0.0006
4140	AF018434	Mus musculus long-chain acyl-CoA dehydrogenase (Acadl) gene, intron 1	6.4
4141	AF309654	Mus musculus U2AF small subunit-related protein (U2af1-rs1) gene, complete cds	0.64
4142	AJ009913	Bos taurus plp gene	2.1
4143	XM_028213	Homo sapiens up-regulated by BCG-CWS (LOC64116), mRNA	0.078
4144	U67550	Methanococcus jannaschii section 92 of 150 of the complete genome	0.081
4145	AB037771	Homo sapiens mRNA for KIAA1350 protein, partial cds	0
4146	AP001438	Homo sapiens genomic DNA, chromosome 21q22.2, clone:T695, LB7T-ERG region, complete sequence	0.009
4147	U88995	Callithrix geoffroyi clone CGE85 mitochondrial D-loop, partial sequence	0.57
4148	AE007343	Streptococcus pneumoniae section 26 of 194 of the complete genome	1.9
4149	Z83832	Avena sativa mRNA for UDP-glucose:sterol glucosyltransferase	0.072
4150	BC007664	Homo sapiens, hepatocellular carcinoma-associated antigen 59, clone MGC:866 IMAGE:3140172, mRNA, complete cds	0
4151	NM_002577	Homo sapiens p21 (CDKN1A)-activated kinase 2 (PAK2), mRNA	5E-39
4152	XM_040120	Homo sapiens ADP-ribosylation factor GTPase activating protein 1 (ARFGAP1), mRNA	2.1
4153	NM_031511	Rattus norvegicus Insulin-like growth factor II (somatomedin A) (Igf2), mRNA	0.024
4154	XM_049817	Homo sapiens Sec23-interacting protein p125 (P125), mRNA	1.8
4155	BC010892	Homo sapiens, clone MGC:13350 IMAGE:4333615, mRNA, complete cds	0.000004
4156	AJ222787	Hordeum vulgare mRNA for alpha-keto acid dehydrogenase-like protein, clone RG136	0.075
4157	AL021306	Human DNA sequence from clone CTB-1109B5 on chromosome 22 Contains a GSS, complete sequence [Homo sapiens]	0.000001
4158	AF315813	Norwalk virus (Hu/NLV/OC96065/1996/JP) polymerase gene, partial cds	0.71

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4159	AE001407	Plasmodium falciparum chromosome 2, section 44 of 73 of the complete sequence	0.0008
4160	U32706	Haemophilus influenzae Rd section 21 of 163 of the complete genome	0.6
4161	AF293663	Anopheles culicifacies 12S ribosomal RNA gene, partial sequence; mitochondrial control region, complete sequence; and tRNA-Ile gene, partial sequence; mitochondrial genes for mitochondrial products	0.066
4162	XM_037617	Homo sapiens acetyl-Coenzyme A carboxylase alpha (ACACA), mRNA	3E-35
4163	AF305712	Bos taurus insulin-like growth factor binding protein-3 (IGFBP3) gene, complete cds	0.23
4164	AK018618	Mus musculus adult male cecum cDNA, RIKEN full-length enriched library, clone:9130014E20, full insert sequence	0.68
4165	Y00354	Xenopus laevis gene encoding vitellogenin A2	0.079
4166	M61827	Human leukosialin (CD43) gene, complete cds	2.2
4167	M64861	D.discoideum TFIID mRNA, complete cds	0.066
4169	AB028894	Mus musculus Rps11, U35 genes for ribosomal protein S11 and U35 snoRNA, complete cds and sequence	0.6
4170	XM_003974	Homo sapiens hypothetical protein FLJ11159 (FLJ11159), mRNA	0.68
4171	AF100658	Caenorhabditis elegans cosmid H08G01	0.75
4172	AF115645	Sedum multiceps maturase K (matK) gene, partial cds; chloroplast gene for chloroplast product	0.0001
4173	AF064029	Helianthus tuberosus lectin 1 mRNA, complete cds	0.11
4175	AF093754	Arabidopsis thaliana trans-membrane nitrate transporter protein AtNRT2:1 mRNA, complete cds	0.22
4176	M14292	Human LIHeg repetitive element from the intergenic region of the epsilon and G-gamma globin genes	2E-08
4177	NM_013564	Mus musculus insulin-like 3 (InsI3), mRNA	0.067
4178	AF218815	Coturnix japonica early response to neural induction ERNI (ERNI) mRNA, partial cds	0.21
4179	U67616	Human 28S ribosomal RNA pseudogenes and alu repeat region sequence	6E-20
4180	AJ297945	Frankia sp. ArI3 cryptic plasmid pFQ31 ORF AF, korSAF gene, ORF CrF, ORF DrF, repF gene, ORF FrF, ORF GF, ORF HF, ORF JF, ORF KrF, ORF LrF, ORF MF, ORF NrF, ORF OF, ORF PrF, parAF gene and ORF SrF	0.68
4181	AB035429	Homo sapiens AGL gene for glycogen-debranching enzyme, exon 14	0.62
4182	AE006774	Sulfolobus solfataricus section 133 of 272 of the complete genome	0.063
4183	U38803	Dictyostelium discoideum vacuolar proton ATPase 100-kDa subunit (vatM) mRNA, complete cds	0.025
4184	U78096	Human macrophage colony stimulating factor receptor (c-fms) gene, exon 1A, 2 and partial cds	0.0001

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4185	X57037	T.thermophila G8-scRNA DNA	5.7
4186	AJ001005	Picea abies chloroplast DNA for rbcL pseudogene	0.67
4187	XM_048652	Homo sapiens Apobec-1 complementation factor; APOBEC-1 stimulating protein (ACF), mRNA	4E-12
4188	Y07654	P.crispum pall gene	0.24
4189	Z78708	H.sapiens flow-sorted chromosome 6 HindIII fragment, SC6pA14H12	1E-28
4190	AE002143	Ureaplasma urealyticum section 44 of 59 of the complete genome	2.1
4191	AF247729	Oncorhynchus mykiss glucose transporter 1B mRNA, partial cds	1.8
4192	Z72929	S.cerevisiae chromosome VII reading frame ORF YGR144w	0.003
4193	M87754	Human simple repeat polymorphism	0.081
4194	AL021809	S.pombe chromosome I cosmid c25A8	0.026
4195	D12820	Rat mRNA for GUST27 protein, complete cds	3.7
4196	M60352	Mouse testosterone 16a-hydroxylase type b (16aoh-b), exon 1	4.7
4197	XM_007360	Homo sapiens hepatocyte nuclear factor 3, alpha (HNF3A), mRNA	0.95
4198	Z36064	S.cerevisiae chromosome II reading frame ORF YBR195c	0.52
4199	AK023959	Homo sapiens cDNA FLJ13897 fis, clone THYRO1001706	0.49
4200	U48298	Dictyostelium discoideum rtoA gene, complete cds	0.68
4201	L47461	Heterodontus francisci tcr beta gene	1.6
4202	AB041023	Humulus lupulus DNA, 18S-26S intergenic spacer, complete sequence	0.0008
4203	AF118226	Hordeum vulgare high pI alpha-glucosidase (AGL97) gene, complete cds	1.8
4204	AF158049	Platybrachys decemmacula 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.077
4205	U63855	Drosophila virilis decapentaplegic protein (dpp) gene, complete cds, haploinsufficient region	0.2
4206	AF248814	Maoricicada cassiope isolate TB-MI-004 tRNA-Asp gene, complete sequence; ATPase subunit 8 gene, complete cds; and ATPase subunit 6 gene, partial cds; mitochondrial genes for mitochondrial products	0.023
4207	XM_037529	Homo sapiens KIAA0410 gene product (KIAA0410), mRNA	0.78
4208	AF330636	Plant DNA excision vector pX6-GFP, complete sequence	0.76
4209	AL080235	Homo sapiens mRNA; cDNA DKFZp586E1621 (from clone DKFZp586E1621)	0.007
4210	NM_021262	Rattus norvegicus Acid phosphatase 1, soluble (Acp1), mRNA	0.16
4211	M11449	Yeast mitochondrial ori2-ori7 region DNA with putative peptide	0.25
4212	AF211134	Carsonella ruddii natural-host Ctenarytaina longicauda 16S ribosomal RNA gene, partial sequence; 23S ribosomal RNA and 5S ribosomal RNA genes, complete sequence; transaldolase (tal) and alkyl hydroperoxide reductase small subunit (ahpC) genes, complete>	0.074
4213	AF157293	Sporodiniella umbellata translation elongation factor 1-alpha (EF-1alpha) gene, partial cds	0.77

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4214	AL390767	Human DNA sequence from clone RP1-68P15 on chromosome 11p13-14.2 Contains GSSs and ESTs. Contains part of a novel gene, complete sequence [Homo sapiens]	0.004
4215	XM_004579	Homo sapiens HGC6.1.1 protein (HGC6.1.1), mRNA	4E-08
4216	XM_043964	Homo sapiens similar to KIAA0220 protein (H. sapiens) (LOC92263), mRNA	5E-40
4217	AL390767	Human DNA sequence from clone RP1-68P15 on chromosome 11p13-14.2 Contains GSSs and ESTs. Contains part of a novel gene, complete sequence [Homo sapiens]	0.004
4218	AF147082	Homo sapiens gamma-glutamyl hydrolase gene, exons 3 through 7	0.088
4219	AY023560	Oryza sativa microsatellite MRG5885 containing (TTA)X8, closest to marker R2561, genomic sequence	0.026
4220	XM_050088	Homo sapiens hepatocellular carcinoma-associated antigen 127 (HCA127), mRNA	0.007
4221	AF131999	Plasmodium falciparum putative erythrocyte binding protein EBL-1 (ebi-1) gene, partial cds	0.68
4222	AF008434	Solanum fendleri farnesyl-protein transferase beta subunit gene, intron 10	0.21
4223	AF367267	Arabidopsis thaliana AT3g26020/MPE11_17 mRNA, complete cds	0.53
4224	XM_006706	Homo sapiens primase, polypeptide 1 (49kD) (PRIM1), mRNA	7E-12
4225	AK004675	Mus musculus adult male lung cDNA, RIKEN full-length enriched library, clone:1200009I20, full insert sequence	0.017
4226	AB026660	Arabidopsis thaliana genomic DNA, chromosome 5, BAC clone:T20O7	0.23
4227	AF272387	Homo sapiens leucine zipper nuclear factor (BLZF1) gene, exon 6	5E-09
4228	L08897	Mycoplasma gallisepticum (strain A5969) 16S-, 23S-, 5S ribosomal RNA (rrsA, rrlA, rrfA) genes	0.073
4229	Z26314	P.falciparum gene for STARP antigen	0.008
4230	NC_001942	Mycoplasma arthritidis bacteriophage MAV1, complete genome	0.18
4231	Y18277	Gallus gallus mRNA for neurobeachin, partial	3
4232	XM_047009	Homo sapiens pleiomorphic adenoma gene-like 2 (PLAGL2), mRNA	1.8
4233	X84729	S.cereale repeated DNA sequence	0.21
4234	AL513132	Human DNA sequence from clone RP11-460C6 on chromosome 9, complete sequence [Homo sapiens]	0
4235	Z71694	E.herklotsi mitochondrial genes for NADH Dehydroenase subunit 5 and 6	0.6
4236	Z33215	M.capricolum DNA for CONTIG MC294	0.54
4237	X86012	Human DNA sequence from intron 22 of the factor VIII gene, Xq28. Contains the end of a 9.5kb repeated region, int22h-1, involved in many cases of haemophilia	0.0000005
4238	AF174355	Praon barbatum 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.026



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4239	AY039607	Arabidopsis thaliana AT3g52380/F22O6_240 mRNA, complete cds	6.1
4240	AJ223385	Fowlpox virus strain HP-440 DNA, isolate FP9, 14.6 kb fragment	0.000004
4241	AF277282	Daphnia cristata country Lithuania 12S ribosomal RNA gene, partial sequence	1.9
4242	NM_023850	Mus musculus carbohydrate (keratan sulfate Gal-6) sulfotransferase 1 (Chst1), mRNA	0.59
4243	AJ238599	Lepilemur septentrionalis genomic fragment, RAPD with primer operon OPH4, clone A1	0.2
4244	XM_051747	Homo sapiens eukaryotic translation initiation factor 4 gamma, 2 (EIF4G2), mRNA	3E-58
4245	M63376	Human TRPM-2 protein gene, exons 1,2 and 3	0.7
4246	AF367267	Arabidopsis thaliana AT3g26020/MPE11_17 mRNA, complete cds	0.59
4247	AJ294714	Pichia anomala leu2 gene for beta-isopropylmalate dehydrogenase	0.17
4248	AF320616	Mus musculus amnionless precursor protein (Amn) gene, partial cds	0.57
4249	AL049609	S.pombe chromosome III cosmid c297	1.8
4250	AJ252313	Homo sapiens genomic hybrid Rhesus box	3.8
4251	XM_034693	Homo sapiens ectodermal dysplasia 1, anhidrotic (ED1), mRNA	0.2
4252	NC_001463	Caprine arthritis-encephalitis virus, complete genome	1.3
4253	AC018655	Homo sapiens 12q BAC RP11-946G22 (Roswell Park Cancer Institute Human BAC Library) complete sequence	5.9
4254	AF003519	Paraligoneurus sp. 16S ribosomal RNA gene, partial sequence	0.024
4255	AL049434	Homo sapiens mRNA; cDNA DKFZp586M151 (from clone DKFZp586M151)	0.0008
4256	U39321	Triticum aestivum acetyl-CoA carboxylase gene, exons 1-30, complete cds	0.22
4257	AB055106	Oryza sativa V-ATPase B gene for vacuolar ATPase B subunit, complete cds	1.7
4258	AF150091	Rattus norvegicus small zinc finger-like protein (TIM10) mRNA, complete cds	0.24
4259	AF047677	Homo sapiens dystrophin (DMD) gene, deletion breakpoints 1-3 in intron 5	0.025
4260	Z81504	Caenorhabditis elegans cosmid F15H9, complete sequence	0.24
4261	AF226147	HIV-1 isolate 630469c from USA protease (pol) gene, partial cds	2
4262	AF270072	Staphylococcus epidermidis strain SR1 clone step.1047b05 genomic sequence	0.68
4263	U56088	Human periodic tryptophan protein 2 (PWP2) gene, exons 3 to 14	0.076
4264	X83692	Brassica napus (tournefortii) mitochondrial genes for atp6, and ORF263	2.1

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4265	AF243425	Penicillium oxalicum vacuolar serine protease mRNA, complete cds	0.63
4266	NM_024381	Rattus norvegicus ATP-stimulated glucocorticoid-receptor translocaton promoter (Gyk), mRNA	0.68
4267	AF098919	Gallus gallus alpha-globin gene domain 5' region	2.3
4268	AJ297909	Hypocrea jecorina rho3 gene, exons 1-5	0.23
4269	U67528	Methanococcus jannaschii section 70 of 150 of the complete genome	0.029
4270	AF104920	Arabidopsis thaliana BAC T9E19	0.026
4271	AF137394	Euperipatoides rowelli elongation factor-1 alpha mRNA, partial cds	0.23
4272	AF243087	Homo sapiens intrinsic factor-vitamin B12 receptor (CUBN) gene, exons 11, 12, and 13	0
4273	AF264703	Astyanax mexicanus retinal homeobox protein (Rx1) mRNA, complete cds	2.2
4274	AJ311054	Chironomus pallidivittatus 4L ORF for putative recombinase subtelocentric clone, Cp5.5	0.025
4275	AF267209	Candidatus Carsonella ruddii natural-host Calophya schini ATP synthase alpha subunit (atpA) gene, partial cds; ATP synthase gamma subunit (atpG) gene, complete cds; and ATP synthase beta subunit (atpD) gene, partial cds	0.0008
4276	Z17148	H. sapiens (D11S935) DNA segment containing (CA) repeat; clone AFM254zb9; single read	0.008
4277	AF175434	Gallus gallus T cell receptor delta chain (TCRD) pseudogene, partial sequence	2.3
4278	AK011996	Mus musculus 10 days embryo cDNA, RIKEN full-length enriched library, clone:2610306H15, full insert sequence	0.49
4279	AF269490	Staphylococcus epidermidis strain SR1 clone step.1005h04 genomic sequence	0.087
4280	XM_050118	Homo sapiens hephaestin (HEPH), mRNA	2E-75
4281	AF232828	Mus musculus ventral neuron-specific protein 1 NOVA1 (Nova1) mRNA, partial cds	0.008
4282	XM_029168	Homo sapiens hypothetical gene supported by AK023162 (LOC90120), mRNA	0.53
4283	L31645	Helianthus annuus ribosomal protein S3a mRNA, complete cds	0.67
4284	XM_012756	Homo sapiens transcription factor 4 (TCF4), mRNA	0.22
4285	AK021049	Mus musculus adult male corpus striatum cDNA, RIKEN full-length enriched library, clone:C030006F08, full insert sequence	0.006
4286	AB020763	Ptychodera flava mRNA for Pax19, complete cds	0.26
4287	XM_047401	Homo sapiens G protein-coupled receptor 51 (GPR51), mRNA	0.25
4288	AF250952	Osmia satoi 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.24
4289	AF267985	Homo sapiens 15 kDa selenoprotein gene, exon 4	0.024
4290	AJ409503	Mus musculus RNA binding site for Dazl protein, clone jd8	0.029
4291	AC009304	Homo sapiens clone NH0111109, complete sequence	0.026

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4292	XM_050269	Homo sapiens solute carrier family 1 (glial high affinity glutamate transporter), member 3 (SLC1A3), mRNA	0.21
4293	AK004286	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1110057K12, full insert sequence	2.1
4294	NC_002095	Chlorobium limicola plasmid pCL1, complete sequence	0.24
4295	AC006678	Caenorhabditis elegans cosmid R05G9, complete sequence	2.1
4296	AF217235	Staphylococcus aureus pathogenicity island SaPIbov, complete sequence	0.009
4297	XM_012045	Homo sapiens hypothetical protein FLJ13074 (FLJ13074), mRNA	0.68
4298	NM_022087	Homo sapiens hypothetical protein FLJ21634 (FLJ21634), mRNA	e-158
4299	XM_010678	Homo sapiens similar to zinc finger protein 258 (H. sapiens) (LOC65323), mRNA	7E-63
4300	AJ311847	Nicotiana tabacum chloroplast mRNA for FtsZ-like protein (ftsZ gene), clone FtsZ2-2	0.55
4301	Z24366	H. sapiens (D18S480) DNA segment containing (CA) repeat; clone AFM320yc9; single read	8E-12
4302	AK003805	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1110019B22, full insert sequence	0.009
4303	AB047606	Macaca fascicularis brain cDNA, clone:QnpA-10881	0
4304	AK000493	Homo sapiens cDNA FLJ20486 fis, clone KAT08039	0.24
4305	AF375597	Mus musculus medium and short chain L-3-hydroxyacyl-Coenzyme A dehydrogenase (Mschad) gene, exons 2 through 8, and complete cds; nuclear gene for mitochondrial product	0.75
4306	AP000301	Homo sapiens genomic DNA, chromosome 21q22.1, D21S226-AML region, clone:D16B8, complete sequence	0.081
4307	AK019632	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930455M05, full insert sequence	0.068
4308	X94556	R.cingulata DNA for internal transcribed spacer ITS2 of rDNA unit	0.079
4310	AY027174	Arabidopsis thaliana sequence flanking 3' end of Ds-GeneTrap insertion from line GT2850	0.2
4311	AC092063	Homo sapiens clone RP11-745H7, complete sequence	0.14
4312	AJ297034	Homo sapiens SDS-stable vimentin-bound DNA fragment HEF19VIM18	e-117
4313	Z82088	Caenorhabditis elegans cosmid ZK256, complete sequence	0.015
4314	AC006709	Caenorhabditis elegans cosmid Y119C1A, complete sequence	0.17
4315	AF016620	Mus musculus Rb-8 neural cell adhesion molecule long form (RNCAM) mRNA, partial cds	6.2
4316	AK013121	Mus musculus 10, 11 days embryo cDNA, RIKEN full-length enriched library, clone:2810421E14, full insert sequence	1.9
4317	XM_033379	Homo sapiens KIAA1607 protein (KIAA1607), mRNA	4E-09
4318	AL355864	Human DNA sequence from clone RP4-803A2 on chromosome 1, complete sequence [Homo sapiens]	1.4

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4319	AE001422	Plasmodium falciparum chromosome 2, section 59 of 73 of the complete sequence	0.028
4320	AL157437	Homo sapiens mRNA; cDNA DKFZp434E1512 (from clone DKFZp434E1512); partial cds	4.9
4321	U31929	Human orphan nuclear receptor (DAX1) gene, complete cds	5.4
4322	AF338875	Hylobates moloch NAN03 cytochrome b gene, partial cds; and tRNA-Thr, tRNA-Pro, and tRNA-Phe genes, complete sequence; mitochondrial genes for mitochondrial products	0.6
4323	X04502	Human SLPI gene for secretory leukocyte protease inhibitor	2
4324	U07018	Human immunodeficiency virus type 1 SH803 (env) gene, partial cds	0.64
4325	AF046143	Homo sapiens chromosome Xp22 958-13	0.023
4326	U17081	Human fatty acid binding protein (FABP3) gene, complete cds	6
4327	AJ249365	Plasmodium falciparum partial mRNA for delta-aminolevulinic acid dehydratase	0.009
4328	AF090936	Homo sapiens clone HQ0582	0.006
4329	X97970	A.thaliana mRNA for RNA helicase	0.079
4330	XM_047794	Homo sapiens KIAA1641 protein (KIAA1641), mRNA	e-156
4331	AF334172	Zea mays clone B7 chromosome 4 centromeric region	3.9
4332	AJ401041	Human immunodeficiency virus type 1 proviral partial gp160 gene for envelope protein, strain J_97DC.KTB147	0.64
4333	XM_038175	Homo sapiens KIAA0872 protein (KIAA0872), mRNA	0.65
4334	Y16473	Chlamydomonas reinhardtii chloroplast DNA for rps18 gene, and orf570	0.028
4335	AF190381	Eucalyptus tetragona photosystem Q(B) protein (psbA) pseudogene and tRNA-His (trnH) gene, partial sequence; chloroplast genes for chloroplast products	0.008
4336	AE006276	Lactococcus lactis subsp. lactis IL1403 section 38 of 218 of the complete genome	0.22
4337	AK020646	Mus musculus adult male urinary bladder cDNA, RIKEN full-length enriched library, clone:9530077A04, full insert sequence	2.3
4338	Z69666	Human DNA sequence from cosmid 24F8 from a contig from the tip of the short arm of chromosome 16, spanning 2Mb of 16p13.3. Contains ESTs, repeat polymorphism and CpG island	0.018
4339	AF017254	West Nile virus nonstructural protein NS5 (NS5) gene, partial cds	0.73
4341	NM_008645	Mus musculus murinoglobulin 1 (Mug1), mRNA	0.00009
4342	AF114927	Saccharomyces pastorianus CBS1538 small subunit ribosomal RNA gene, mitochondrial gene for mitochondrial RNA, complete sequence	0.25
4343	AL451057	Human DNA sequence from clone CTD-2010K20 on chromosome 10, complete sequence [Homo sapiens]	0.17
4344	AK022875	Homo sapiens cDNA FLJ12813 fis, clone NT2RP2002503, weakly similar to ZINC FINGER PROTEIN 45	1.7
4345	D10910	Arabidopsis thaliana Atpk7 gene for serine/threonine protein kinase, complete cds	0.61

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4346	X53096	S.aureus genes encoding Sau96I DNA methyltransferase and Sau96I restriction endonuclease	0.2
4347	M57855	Human protein S-beta pseudogene, exons 5 and 6	0.2
4348	Z73523	S.cerevisiae chromosome XVI reading frame ORF YPL167c	0.065
4349	U67562	Methanococcus jannaschii section 104 of 150 of the complete genome	0.54
4350	Y09047	M.musculus pxF gene, strain 129VJ	0.002
4351	XM_027332	Homo sapiens ribosomal protein L36 (RPL36), mRNA	0.0001
4352	AF106029	Thomomys mazama clone 12-8 microsatellite sequence	0.25
4353	AL137428	Homo sapiens mRNA; cDNA DKFZp761N1323 (from clone DKFZp761N1323)	0.028
4354	L81915	Homo sapiens (subclone 1_g8 from BAC H76) DNA sequence, complete sequence	0.63
4355	J01291	soybean 7s seed storage protein alpha subunit mrna (b), from gmc-alpha'-alpha 236	3.7
4356	NM_006649	Homo sapiens serologically defined colon cancer antigen 16 (SDCCAG16), mRNA	0.69
4357	AL137635	Homo sapiens mRNA; cDNA DKFZp434E175 (from clone DKFZp434E175)	6.1
4358	Y14422	M.musculus DNA for retinal protein	0.23
4359	D32056	Human gene for 2-oxoglutarate dehydrogenase, exon 1 sequence	6.4
4360	D14337	Yeast pck1+ gene for protein kinase, complete cds	0.085
4361	J02756	Mouse band 3 anion exchange protein gene, complete cds	1.9
4362	XM_048747	Homo sapiens KIAA1223 protein (KIAA1223), mRNA	0.69
4363	M97514	Saccharomyces douglasii mitochondrial cytochrome c oxidase subunit I (COXI) gene, complete cds	0.19
4364	D10910	Arabidopsis thaliana Atpk7 gene for serine/threonine protein kinase, complete cds	0.53
4365	AK015420	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930448I18, full insert sequence	0.003
4366	U82487	Branchiostoma floridae engrailed protein (AmphiEn) mRNA, complete cds	0.22
4367	AB052798	Feline foamy virus env gene for envelope protein, complete cds, clone:HFFV	0.08
4368	AY027174	Arabidopsis thaliana sequence flanking 3' end of Ds-GeneTrap insertion from line GT2850	0.25
4369	AJ298684	Phylloxera sp. MBLM2 mitochondrial ATP6 gene for ATP synthase A chain subunit 6	0.67
4370	NM_013696	Mus musculus thyrotropin releasing hormone receptor (Trhr), mRNA	0.000003
4371	AF176830	Dictyostelium discoideum polyphosphate kinase (PPK) gene, complete cds	0.83
4372	AB036665	Bacteriophage WO genes, ISW1 inserted sequence, partial and complete cds	0.17
4373	AJ310187	Prevotella albensis dpp-IV gene for dipeptidyl peptidase IV	1.6
4374	L77040	Homo sapiens (subclone 8_c11 from P1 H22) DNA sequence	0.025

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4375	AJ277162	Beta vulgaris mRNA for putative Cdc2-related protein kinase CRK2	0.009
4376	K02781	Mouse PND gene encoding atrial natriuretic factor, complete cds	0.24
4377	AL110166	Homo sapiens mRNA; cDNA DKFZp586M1424 (from clone DKFZp586M1424)	0.69
4378	AE006400	Lactococcus lactis subsp. lactis IL1403 section 162 of 218 of the complete genome	6.4
4379	AF310887	Dictyostelium discoideum RacB (racB) gene, partial cds; and unknown gene	0.23
4380	AY023357	Oryza sativa microsatellite MRG5682 containing (TAA)X20, genomic sequence	2.3
4381	AL133038	Homo sapiens mRNA; cDNA DKFZp434D1835 (from clone DKFZp434D1835)	0.00004
4382	M37760	Mouse serine 2 ultra high sulfur protein gene, complete cds	0.083
4383	AF151698	Agrobacterium tumefaciens cryptic plasmid pAtC58 transcriptional repressor, GlnH homolog, GlnP/GlnQ homolog, putative oxidoreductase, and AgaE homolog genes, complete cds	0.25
4384	X59370	X.laevis POMC-A gene for proopiomelanocortin-A	0.007
4385	AF244933	Oryctolagus cuniculus interferon gamma precursor, mRNA, complete cds	0.66
4386	Z69919	Human DNA sequence from cosmid 91K3, Huntington's Disease Region, chromosome 4p16.3 contains CpG island	0.077
4387	AK027136	Homo sapiens cDNA: FLJ23483 fis, clone KAIA04052	1.7
4388	AK027136	Homo sapiens cDNA: FLJ23483 fis, clone KAIA04052	6.6
4389	AL589705	Human DNA sequence from clone RP11-64M7 on chromosome 6, complete sequence [Homo sapiens]	0.63
4390	AF035192	Campylobacter rectus S-layer-RTX protein (csxB) gene, complete cds; tRNA-Arg gene, complete sequence; and putative histidine kinase gene, partial cds	0.34
4391	AK021269	Mus musculus 12 days embryo spinal cord cDNA, RIKEN full-length enriched library, clone:C530007A02, full insert sequence	0.69
4392	XM_030404	Homo sapiens acid phosphatase 1, soluble (ACP1), mRNA	0.007
4393	BC006633	Mus musculus, Flt3 interacting zinc finger protein 1, clone MGC:7201 IMAGE:3482191, mRNA, complete cds	2
4394	AK009564	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2310032D21, full insert sequence	1.6
4395	L04802	Silkmoth apoptosis preventing protein (p35) gene sequence	0.21
4396	AB026599	Neogerris parvulus mitochondrial gene for 16S ribosomal RNA, partial sequence	0.027
4397	BC005581	Mus musculus, RIKEN cDNA 2310022K15 gene, clone MGC:11736 IMAGE:3968615, mRNA, complete cds	0.22
4398	XM_033374	Homo sapiens myosin, heavy polypeptide 7, cardiac muscle, beta (MYH7), mRNA	0.23
4399	U31534	Isla Vista virus MC-SB-1 nucleocapsid protein mRNA, complete cds	0.54

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4400	XM_005318	Homo sapiens hypothetical protein FLJ11125 (FLJ11125), mRNA	0.44
4401	U76670	Arabidopsis thaliana recA-like protein (AtDMC1) gene, complete cds	0.051
4402	AK009448	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2310021K08, full insert sequence	1.6
4403	AY003917	Phytophthora infestans isolate 94-52 NADH dehydrogenase subunit 4 gene, partial cds; mitochondrial gene for mitochondrial product	0.16
4404	AC084160	Caenorhabditis elegans cosmid Y73B3B, complete sequence	0.21
4405	AF330120	Homo sapiens voltage-gated sodium channel type III alpha subunit (SCN3A) gene, exon 4	2.4
4406	AK022135	Homo sapiens cDNA FLJ12073 fis, clone HEMBB1002387	0.49
4407	AF332583	Homo sapiens stratum corneum chymotryptic enzyme (KLK7) gene, complete cds, alternative transcripts	1.7
4408	XM_043049	Homo sapiens hypothetical gene supported by AL080215 (LOC92138), mRNA	0.7
4409	AK017682	Mus musculus 8 days embryo cDNA, RIKEN full-length enriched library, clone:5730465I09, full insert sequence	2.1
4410	AJ409162	Solanum ochranthum LINE retrotransposon within partial ure gene for urease, exons 6-8	0.025
4411	AF183584	Papio hamadryas tyrosinase gene, exon 2	0.24
4412	AK010138	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2310069P03, full insert sequence	0.56
4413	AF112141	Oryzias latipes homeodomain transcription factor (eng2) mRNA, complete cds	0.021
4414	AK022458	Homo sapiens cDNA FLJ12396 fis, clone MAMMA1002758	4.9
4415	AK024159	Homo sapiens cDNA FLJ14097 fis, clone MAMMA1000760	0.00007
4416	AB060834	Macaca fascicularis brain cDNA clone:QtrA-10686, full insert sequence	2.1
4417	AF063864	Schizosaccharomyces pombe essential nuclear protein Mcm3p (mcm3+) gene, complete cds	0.21
4418	AF233288	Drosophila melanogaster WDS (wds) and egghead (egh) genes, complete cds	1.3
4419	AE003106	Drosophila melanogaster genomic scaffold 142000013386018, complete sequence	0.007
4421	AB001919	Oryza sativa DNA for phospholipase D, complete cds	0.23
4422	AF216290	Mus musculus heterochromatin protein 1 alpha mRNA, complete cds	0.66
4423	AF028828	Homo sapiens Tax interaction protein 43 mRNA, partial cds	0.18
4424	AF011446	Mus musculus granzyme K gene, complete cds	1.9
4425	AF200375	Ceratosolen bisulcatus cytochrome oxidase subunit I (COI) gene, partial cds; tRNA-Leu gene, complete sequence; and cytochrome oxidase subunit II (COII) gene, partial cds; mitochondrial genes for mitochondrial products	0.68

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4426	AF328031	Zygodactylus rufipes NADH dehydrogenase subunit I (ND1) gene, partial cds; mitochondrial gene for mitochondrial product	1.7
4427	AF289983	Alouatta stramineus cytochrome b gene, partial cds; mitochondrial gene for mitochondrial product	0.72
4428	Z73253	S.cerevisiae chromosome XII reading frame ORF YLR081w	0.19
4429	NM_018706	Homo sapiens hypothetical protein DKFZp762M115 (KIAA1630), mRNA	1E-48
4430	AF298209	Dictyostelium discoideum non-LTR retrotransposon TRE5-B, polyprotein (gag) and group-specific antigen (pol) genes, complete cds	0.74
4431	AJ276991	Mus musculus partial mRNA for ClpX protein	0.079
4432	AB047240	Human endogenous retrovirus HERV-K(II) DNA, complete sequence and flanking region	0.13
4433	L40389	Candida glabrata ERG11 gene, complete cds	0.027
4434	K02592	Mouse Ins DNA; cellular component that mediates integration and excision of polyoma virus DNA	0.38
4435	D31782	Snake (green habu) gTgTBP gene for TATA-box binding protein	1.5
4436	AK019649	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930480I16, full insert sequence	0.25
4437	U36777	Carassius auratus aldolase C mRNA, complete cds	0.094
4438	AF036690	Caenorhabditis elegans cosmid F09C11	0.72
4439	NM_012750	Rattus norvegicus Tyrosine kinase receptor ligand 2 (Retl2), mRNA	0.63
4440	M74000	Brugia malayi myosin heavy chain gene, complete cds	0.073
4441	XM_042656	Homo sapiens LOC87184 (LOC87184), mRNA	0.66
4442	AF335329	Kallichroma tethys isopenicillin N synthase (pcbC) and alpha-aminoadipyl-cysteinyl-valine synthetase (pcbAB) genes, complete cds	6.1
4443	XM_037269	Homo sapiens region containing hypothetical protein FLJ10549; hypothetical protein FLJ10517 (LOC82252), mRNA	0.26
4444	AF130079	Homo sapiens clone FLC0578 PRO2852 mRNA, complete cds	0.24
4445	AF086241	Homo sapiens full length insert cDNA clone ZD29F04	0.51
4446	AF262583	Schedorhinotermes sarawakensis 16S mitochondrial ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	4.6
4447	AF170550	Arabidopsis thaliana germin-like protein 7 (GLP7) gene, complete cds	2
4448	AC084500	Caenorhabditis briggsae cosmid G13G15, complete sequence	0.66
4449	M23360	Trypanosoma brucei cytochrome C mRNA, partial cds	2.1
4450	AF236387	Schizosaccharomyces pombe zinc finger protein Grt1 (grt1) gene, complete cds	0.076
4453	XM_010610	Homo sapiens hypothetical protein (FLJ10287), mRNA	0.027
4454	AY021908	Oryza sativa microsatellite MRG4233 containing (TA)X42, closest to marker C563, genomic sequence	0.025
4455	AK021675	Homo sapiens cDNA FLJ11613 fis, clone HEMBA1004012	0.073



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4456	NM_030995	Rattus norvegicus Microtubule-associated protein 1a (Map1a), mRNA	1.8
4457	AF015298	Human herpesvirus 6 IE-2 protein (ie2hom) gene, complete cds	0.058
4458	XM_011297	Homo sapiens hypothetical protein FLB3342 (FLB3342), mRNA	0.0000009
4459	AE006714	Sulfolobus solfataricus section 73 of 272 of the complete genome	0.002
4460	AE001434	Plasmodium falciparum chromosome 2, section 71 of 73 of the complete sequence	0.004
4461	AF068270	Rachiplusia ou nuclear polyhedrosis virus protein-tyrosine phosphatase (ptp), late expression factor-2 (lef-2), occlusion matrix protein (polh), capsid-associated protein, and protein kinase (pk1) genes, complete cds; and unknown genes	0.027
4462	AK015582	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930477O15, full insert sequence	0.08
4463	XM_039778	Homo sapiens HSPC047 protein (HSPC047), mRNA	0
4464	S73580	putative polymerase...capsid protein [potato aucuba mosaic potexvirus PAMV, Genomic RNA Complete, 6 genes, 7059 nt]	0.071
4465	XM_016858	Homo sapiens LOC87857 (LOC87857), mRNA	3E-13
4466	AE004427	Vibrio cholerae chromosome II, section 84 of 93 of the complete chromosome	0.69
4467	AK025346	Homo sapiens cDNA: FLJ21693 fis, clone COL09609	4.9
4468	U89926	Drosophila melanogaster cut gene, partial sequence	0.22
4469	X57171	D.caryophyllus CARSR12 gene	2
4470	L36434	Mus Musculus basic domain/leucine zipper transcription factor mRNA, 3' end of cds	2
4471	AF115469	Arabidopsis thaliana cultivar Landsberg erecta Arac2 (Arac2) gene, complete cds	1.9
4472	AB063169	Petunia x hybrida taz1 gene for tapetum-specific zinc finger protein 1, promoter region and partial cds	0.64
4473	L41691	Bos taurus (clones L6, C15, C12, C8, C9, C17, C19, C12, C18, C5, C6, C3, C13, C10, C47) mRNA, 3' end of cds	0.47
4474	U61463	Human myosin VIIa (MYO7A) gene, 5' exon 36	0.0007
4475	NM_008992	Mus musculus ATP-binding cassette, sub-family D (ALD), member 4 (Abcd4), mRNA	1.9
4476	XM_050942	Homo sapiens ribosomal protein L6 (RPL6), mRNA	0.00009
4477	AK005146	Mus musculus adult male cerebellum cDNA, RIKEN full-length enriched library, clone:1500004F14, full insert sequence	0.71
4478	AF345089	Hepatitis C virus isolate SCpreSC2c14 nonfunctional polyprotein gene, partial sequence	0.71
4479	AK008812	Mus musculus adult male stomach cDNA, RIKEN full-length enriched library, clone:2210403E17, full insert sequence	6.4
4480	XM_006983	Homo sapiens A kinase (PRKA) anchor protein 3 (AKAP3), mRNA	1.6
4481	X06438	Soybean leghaemoglobin gene lba promoter region	0.19
4482	AF020051	Blackcurrant reversion virus RNA2 polyprotein mRNA, complete cds	0.71

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4483	XM_051560	Homo sapiens peroxisome proliferative activated receptor, gamma (PPARG), mRNA	0.6
4484	AB023481	Cyprinus carpio mRNA for mitogen activated protein (MAP) kinase p38, complete cds	6.3
4485	AJ250933	Homo sapiens partial SIP1 gene for survival interacting protein 1, exons 3-4	2.2
4486	XM_039989	Homo sapiens microfibrillar-associated protein 3 (MFAP3), mRNA	0.69
4487	XM_047554	Homo sapiens similar to KIAA1473 protein (H. sapiens) (LOC92830), mRNA	6.7
4488	AB042411	Homo sapiens strg gene for striatum-specific G protein-coupled receptor, complete cds	2
4489	XM_035221	Homo sapiens ancient ubiquitous protein 1 (AUP1), mRNA	0.16
4490	D14061	Schizosaccharomyces pombe mRNA for ORF	0.015
4491	AE001426	Plasmodium falciparum chromosome 2, section 63 of 73 of the complete sequence	0.074
4492	M18349	Rat leukocyte common antigen (L-CA) gene, exons 1 through 5	0.16
4493	AF020726	Tetrahymena thermophila phosphoglucomutase (PGM1) gene, complete cds	0.058
4494	M80241	Caenorhabditis elegans unc-6 gene, complete cds	2.1
4495	U67234	Human clone HS5.29 Alu-Ya5 sequence	0.083
4496	AK000864	Homo sapiens cDNA FLJ10002 fis, clone HEMBA1000046	0.00001
4498	AK024393	Homo sapiens cDNA FLJ14331 fis, clone PLACE4000320	0.064
4499	AF071754	Mus musculus DNA cytosine methyltransferase mRNA	0.21
4500	XM_047325	Homo sapiens hypothetical protein LOC57187 (LOC57187), mRNA	0
4501	XM_043434	Homo sapiens villin-like (VILL), mRNA	1.8
4502	NM_032675	Homo sapiens hypothetical protein MGC10954 (MGC10954), mRNA	0.0008
4503	AL589203	Human DNA sequence from clone RP11-391F23 on chromosome 6, complete sequence [Homo sapiens]	0.0003
4504	M86544	Cow prostaglandin F synthetase II (PGFSII) mRNA, complete cds	0.66
4505	AF339782	Homo sapiens clone IMAGE:1871856, mRNA sequence	0
4506	Z74196	S.cerevisiae chromosome IV reading frame ORF YDL148c	6.2
4507	AF012751	Danio rerio olfactory receptor protein 2.4 mRNA, complete cds	6.8
4508	AF184796	Arabidopsis thaliana inhibitor tagged site ITS29 genomic sequence	1
4509	AE006187	Pasteurella multocida PM70 section 154 of 204 of the complete genome	1.8
4510	AJ272171	Podospira anserina degenerate gypsy-like retrotransposon Yeti	0.074
4511	AK024656	Homo sapiens cDNA: FLJ21003 fis, clone CAE03685	1E-90
4512	NC_002629	Lithobius forficatus mitochondrion, complete genome	0.066
4513	X87205	M.fascicularis mRNA for metalloprotease-like, disintegrin-like protein, IVa	4.9

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4514	XM_011595	Homo sapiens CDC10 (cell division cycle 10, <i>S. cerevisiae</i> , homolog) (CDC10), mRNA	5E-47
4515	AK021537	Homo sapiens cDNA FLJ11475 fis, clone HEMBA1001734, moderately similar to CADHERIN-11 PRECURSOR	0.068
4516	AB044877	Equus caballus DNA, microsatellite TKY377	0.076
4517	AC079391	Homo sapiens clone CTD-2243M11, complete sequence	0.00001
4518	AK000932	Homo sapiens cDNA FLJ10070 fis, clone HEMBA1001581	0
4519	AE001376	Plasmodium falciparum chromosome 2, section 13 of 73 of the complete sequence	0.24
4520	XM_040095	Homo sapiens hypothetical protein (DKFZP434G0310), mRNA	1.8
4521	AF224317	Gallus gallus Frizzled-7 (cFz-7) mRNA, complete cds	1.5
4522	AE001155	Borrelia burgdorferi (section 41 of 70) of the complete genome	2
4523	AJ313130	Medicago truncatula transposon (CACTA type), clone 65K06	2
4524	AF020187	Amblyomma americanum ecdysteroid receptor (AamEcRA1) mRNA, complete cds	6.3
4525	AP000249	Homo sapiens genomic DNA, chromosome 21q22.1, D21S226-AML region, clone:B762O15, complete sequence	2E-19
4526	AF218380	Mus musculus CBLN3 (Cbln3) gene, complete cds	0.69
4527	AP000601	Arabidopsis thaliana genomic DNA, chromosome 3, P1 clone: MJL14	0.029
4528	AE001140	Borrelia burgdorferi (section 26 of 70) of the complete genome	0.64
4529	AL358852	Human DNA sequence from clone RP1-317N9 on chromosome 6, complete sequence [Homo sapiens]	2.2
4530	NM_024596	Homo sapiens hypothetical protein FLJ12847 (FLJ12847), mRNA	0.82
4531	X12918	Human Na <sup>+</sup> ,K <sup>+</sup> ATPase gene part of intron XVI (alpha III isoform)	0.0003
4532	AF298180	Caenorhabditis elegans tropomyosin isoform IV mRNA, complete cds	0.57
4533	M21590	M.mycoides capri Gly-tRNA gene	0.48
4534	AF250227	Homo sapiens adenylyl cyclase type VI gene, partial cds	0.19
4535	Z36061	S.cerevisiae chromosome II reading frame ORF YBR192w	0.071
4536	AF006510	Endogone pisiformis 18S ribosomal RNA gene, partial sequence, internal transcribed spacer 1, 5.8S ribosomal RNA gene and internal transcribed spacer 2, complete sequence, and 26S ribosomal RNA gene, partial sequence	0.08
4537	D88262	Pisum sativum PsCHS5 gene for chalcone synthase, complete cds	0.075
4538	L31504	Neurospora crassa cytoplasmic dynein heavy chain (ro-1) gene, complete cds	2.3
4539	S81605	S100 beta =neural calcium binding protein beta subunit {5' region} [rats, Genomic, 2279 nt]	0.66
4540	X95275	P.falciparum complete gene map of plastid-like DNA (IR-A)	0.23
4541	U18868	Squalus acanthias multifunctional protein CAD mRNA, complete cds	0.024

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4542	AF184835	Arabidopsis thaliana inhibitor tagged site ITS68 genomic sequence	0.71
4543	AL513350	Human DNA sequence from clone RP11-509D8 on chromosome 9, complete sequence [Homo sapiens]	0.64
4544	Z68107	Caenorhabditis elegans cosmid F48C5, complete sequence	2
4545	AK002184	Homo sapiens cDNA FLJ11322 fis, clone PLACE1010329	0.71
4546	U00025	Caenorhabditis elegans cosmid PAR2, complete sequence	0.46
4547	U39548	Meloidogyne artiellia mtcuticline-1 gene, 5' upstream region	0.64
4548	AK024271	Homo sapiens cDNA FLJ14209 fis, clone NT2RP3003346	0.0003
4549	AF248989	Arabidopsis griffithiana chalcone synthase gene, promoter region and partial cds	0.3
4550	AF081208	Monoclea gottschei subsp. gottschei tRNA-Thr/tRNA-Leu intergenic spacer, partial chloroplast sequence	0.009
4551	XM_002770	Homo sapiens hypothetical protein (FLJ10996), mRNA	5.8
4552	AF035672	Mus musculus MHC class I related protein 1 (MR1) gene, complete cds	1.1
4553	AF374466	Macrobrachium intermedium 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	5.9
4554	S80559	pdm-2=POU domain gene [Drosophila melanogaster, mRNA, 2171 nt]	0.009
4555	AY029489	Homo sapiens aminophospholipid-transporting ATPase (ATP10C) gene, exon 3	1E-89
4556	NM_026255	Mus musculus RIKEN cDNA 4930433D19 gene (4930433D19Rik), mRNA	2.2
4557	AJ276163	Homo sapiens partial GDH gene for uridine diphospho-glucose dehydrogenase, exons 8-11	0.0002
4558	NC_001566	Apis mellifera ligustica mitochondrion, complete genome	0.19
4559	BC003453	Mus musculus, calreticulin, clone MGC:6209 IMAGE:2655918, mRNA, complete cds	2
4560	XM_048784	Homo sapiens mature T-cell proliferation 1 (MTCPI), mRNA	0.62
4561	AF119845	Homo sapiens PRO1304 mRNA, complete cds	0.01
4562	AF251477	Plasmodium berghei glutathione reductase gene, partial cds	0.053
4563	XM_018443	Homo sapiens ATPase, Na+/K+ transporting, beta 3 polypeptide (ATP1B3), mRNA	2
4564	AF145282	Trichomonas vaginalis calcium motive P-type ATPase (CA-2) gene, partial cds	0.11
4565	AF280548	Homo sapiens neuropilin-1 (NRP1) gene, exons 1, 2, and partial cds	2.1
4566	NC_002253	Buchnera sp. APS plasmid pLeu, complete sequence	0.24
4567	AJ238613	Gallus gallus mRNA for teneurin-1	0.61
4568	Y08926	P.falciparum mRNA for AARPI protein, partial	0.21
4569	Z86105	A.thermophilum cea gene and manA pseudogene	0.69
4570	AL583902	S.pombe chromosome I p1 p32A8	1.1
4571	AL358951	Human DNA sequence from clone RP3-456L16 on chromosome 6, complete sequence [Homo sapiens]	0.072
4572	AJ001164	Drosophila melanogaster additional sex combs cDNA sequence	0.1

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4573	AF301004	Schistosoma mansoni thioredoxin peroxidase 3 (TPx3) gene, complete cds	0.19
4574	AF276995	Xenopus laevis homeobox protein Six4.2 (Six4.2) gene, partial cds	2
4575	BC007465	Homo sapiens, clone IMAGE:3828547, mRNA	0.00002
4576	AL589824	Human DNA sequence from clone RP11-76G11 on chromosome X, complete sequence [Homo sapiens]	0.17
4577	AF151171	Ornithorhynchus anatinus mannose 6-phosphate/insulin-like growth factor 2 receptor (M6p/Igf2r) gene, exons 2 and 3 and partial cds	0.67
4578	AK000883	Homo sapiens cDNA FLJ10021 fis, clone HEMBA1000568	0
4579	XM_016630	Homo sapiens KIAA1046 protein (KIAA1046), mRNA	1.1
4580	NM_015906	Homo sapiens transcriptional intermediary factor 1 gamma (TIF1GAMMA), transcript variant alpha, mRNA	2
4581	AF274053	Xenopus laevis maxi-K potassium channel alpha subunit Slo mRNA, complete cds	0.19
4582	AB035874	Pseudoregma pendleburyi mitochondrial genes for small subunit rRNA, tRNA-Val, large subunit rRNA, partial and complete sequences	0.003
4583	AF277081	Ajellomyces dermatitidis strain 104 blastomyces yeast phase-specific protein 1 (bys1) gene, complete cds	0.26
4584	AF334561	Homo sapiens chromosome Y landmark: proximal external boundary of P7 VCY inverted repeat	0.69
4585	X55197	P.yoelii YEL6 gene for ATPase	0.23
4586	L32141	Mitochondrion Lymantria dispar ribosomal RNA large subunit	0.008
4587	AF272001	Ebola virus subtype Zaire strain Mayinga complete genome	1.5
4588	AE004405	Vibrio cholerae chromosome II, section 62 of 93 of the complete chromosome	1.9
4589	XM_010966	Homo sapiens debranching enzyme (S. Cerevisiae) homolog 1 (DBR1), mRNA	2
4591	U68246	Dictyostelium discoideum WacA (wacA) gene, complete cds	0.002
4592	XM_047617	Homo sapiens KIAA1349 protein (KIAA1349), mRNA	0.027
4593	AK003428	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1110004J07, full insert sequence	2.2
4594	XM_029072	Homo sapiens LOC89256 (LOC89256), mRNA	0.009
4595	L43549	Buchnera aphidicola aspartyl-tRNA synthetase (aspS), thioredoxin reductase (trxB), seryl-tRNA synthase (serS), phosphoserine aminotransferase (serC), 3-enolpyruvylshikimate-5-phosphate synthetase (aroA), ribosomal protein S1 (rpsA), integration host fa>	0.21
4596	AK023907	Homo sapiens cDNA FLJ13845 fis, clone THYRO1000815	0
4598	AB042649	Watermelon spotted wilt virus nss, np genes for non-structural, nucleocapsid protein, complete cds, isolate:WS-O	0.024
4599	D85547	Bacillus sp. DNA for cytochrome c oxidase subunit I,II and III, complete and partial cds	0.23

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4600	L29252	Human (clone D13-2) L-iditol-2 dehydrogenase gene, exon 4, exon 5, exon 6 and exon 7	2E-08
4601	AE003872	Xylella fastidiosa 9a5c, section 18 of 229 of the complete genome	1.5
4602	U29924	Human AMP deaminase (AMPD3) gene, exon 12	0.0003
4603	AE000653	Helicobacter pylori 26695 section 131 of 134 of the complete genome	0.75
4605	AP001235	Homo sapiens genomic DNA, chromosome 2p11.2, clone:cos607/7B8	0.024
4606	AF207725	Mustela lutreola isolate D23 mitochondrial D-loop, partial sequence	0.028
4607	AE007377	Streptococcus pneumoniae section 60 of 194 of the complete genome	0.083
4608	XM_018430	Homo sapiens LOC88330 (LOC88330), mRNA	4E-27
4609	AF273674	Plasmodium falciparum DNA-dependent RNA polymerase (TRNAP) gene, complete cds; nuclear gene for probable mitochondrial product	0.002
4610	AY018919	Oryza sativa microsatellite MRG1244 containing (AT)X23, genomic sequence	6.7
4611	AB025642	Arabidopsis thaliana genomic DNA, chromosome 5, BAC clone:T32G24	2.1
4612	X59275	D.melanogaster mRNA for posterior sex combs	0.68
4613	AF052959	Homo sapiens type XV collagen (COL15A1) gene, exon 6	0.71
4614	U32730	Haemophilus influenzae Rd section 45 of 163 of the complete genome	0.025
4615	AF212976	Bolitoglossa mexicana isolate MEX_6C cytochrome b gene, partial cds; mitochondrial gene for mitochondrial product	0.076
4616	AF031493	Cancer magister molt-inhibiting hormone precursor mRNA, complete cds	0.22
4617	AJ245965	Danio rerio mRNA for pbxy homeodomain protein (pbxy gene)	0.068
4618	XM_031524	Homo sapiens AF15q14 protein (AF15Q14), mRNA	0
4619	AL096876	S.pombe chromosome II cosmid c418	0.001
4620	XM_051190	Homo sapiens similar to frizzled (Drosophila) homolog 4 (H. sapiens) (LOC93401), mRNA	6
4621	XM_005411	Homo sapiens interferon, omega 1 (IFNW1), mRNA	0.22
4622	Z50156	D.discoideum gene for 34 kD actin binding protein	0.027
4623	BC006182	Homo sapiens, Similar to calmodulin 2 (phosphorylase kinase, delta), clone MGC:715 IMAGE:3528814, mRNA, complete cds	2
4624	AF106933	Drosophila melanogaster plexin B (plexB) mRNA, complete cds	0.66
4625	U44392	Human Down Syndrome region of chromosome 21, clone A12H1-1G10	0.077
4626	AF145452	Arabidopsis thaliana branched chain alpha-keto acid dehydrogenase E1 beta subunit (din4) mRNA, complete cds; nuclear gene for mitochondrial product	6.3
4627	AE006315	Lactococcus lactis subsp. lactis IL1403 section 77 of 218 of the complete genome	0.62

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4628	X55978	T. brucei ESAG 8 gene for a leucine-rich repeat family protein	0.24
4629	U41529	Caenorhabditis elegans cosmid EGAP3	0.59
4630	XM_039502	Homo sapiens associated molecule with the SH3 domain of STAM (AMSH), mRNA	5.3
4631	AF141650	Nyctalus noctula microsatellite P223 sequence	1.5
4633	AL096887	Human DNA sequence from clone RP6-152C18 on chromosome Xq26.1-27.3, complete sequence [Homo sapiens]	0.02
4634	AL137458	Homo sapiens mRNA; cDNA DKFZp434E2221 (from clone DKFZp434E2221)	0.074
4635	AE002292	Chlamydia muridarum, section 24 of 85 of the complete genome	5.1
4636	XM_048200	Homo sapiens KIAA0276 protein (KIAA0276), mRNA	5.4
4637	AF017041	Dictyostelium discoideum LTR-retrotransposon Skipper, partial genomic sequence, 5' end	0.16
4638	Z98853	Caenorhabditis elegans cosmid R08A2, complete sequence	5.7
4639	XM_017899	Homo sapiens LOC89635 (LOC89635), mRNA	0
4640	BC006943	Mus musculus, Similar to RIKEN cDNA 3230401N03 gene, clone MGC:6906 IMAGE:2655807, mRNA, complete cds	2
4641	AF275345	Lycopersicon esculentum MADS-box transcription factor jointless gene, complete cds	0.62
4642	AK018612	Mus musculus adult male cecum cDNA, RIKEN full-length enriched library, clone:9130011L11, full insert sequence	1.9
4643	AE006568	Streptococcus pyogenes M1 GAS strain SF370, section 97 of 167 of the complete genome	6.6
4644	AF057019	Dictyostelium discoideum interaptin (abpD) gene, complete cds	0.67
4645	XM_010198	Homo sapiens immune dysregulation, polyendocrinopathy, enteropathy, X-linked (IPEX), mRNA	5E-29
4646	NM_022599	Rattus norvegicus outer membrane protein (Omp25), mRNA	1E-14
4647	U08455	HIV-1 isolate 965 clone 26 from Malawi, envelope glycoprotein (env) gene, partial cds	0.72
4648	AK023304	Homo sapiens cDNA FLJ13242 fis, clone OVARC1000578	6
4649	U20803	Gallus gallus fibrinogen alpha and alpha-E subunit gene, exons 5 and 6, and complete cds for alpha and alpha-E subunits	2
4650	AF189768	Homo sapiens leukocyte immunoglobulin-like receptor 5 (LIR5) gene, complete cds	0.025
4651	AK002614	Mus musculus adult male kidney cDNA, RIKEN full-length enriched library, clone:0610012K15, full insert sequence	2.1
4652	AF010568	Plasmodium falciparum microsatellite TA80 sequence	0.05
4653	AF042283	Schizosaccharomyces pombe sulfide dehydrogenase (hmt2) gene, complete cds	0.63
4654	Y16262	Daucus carota mRNA for neutral invertase	0.22
4655	XM_035796	Homo sapiens hypothetical gene supported by AF001893; AH005586 (LOC91063), mRNA	1.5
4656	AB008565	Homo sapiens gene for deoxyribonuclease II, 5'-upstream region	0.73
4657	Y17275	Lycopersicon esculentum p69a gene, complete CDS	0.51
4658	X03100	Human HLA-SB(DP) alpha gene	0.23

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4659	AL121822	Human DNA sequence from clone 346P11 on chromosome Xq21.2-21.33, complete sequence [Homo sapiens]	1E-08
4660	AE001813	Thermotoga maritima section 125 of 136 of the complete genome	0.18
4661	AK004553	Mus musculus adult male lung cDNA, RIKEN full-length enriched library, clone:1200002O22, full insert sequence	0.61
4662	AJ387942	Fagonia cretica chloroplast tRNA-Leu intron and trnL-trnF intergenic spacer	0.6
4663	AB053560	Carabus venustus subsp. liaoningensis mitochondrial gene for NADH dehydrogenase subunit 5, partial cds, isolate:73-MoVe99LB02	0.027
4664	Z78708	H.sapiens flow-sorted chromosome 6 HindIII fragment, SC6pA14H12	2E-63
4665	AF010563	Plasmodium falciparum microsatellite TA73 sequence	0.16
4666	AB030620	Mus musculus Chetk-alpha gene for choline/ethanolamine kinase-alpha, exon 4, 5, 6, 7, 8	0.73
4667	L77036	Homo sapiens (subclone 5_d9 from P1 H19) DNA sequence	0.007
4668	U23037	Oryctolagus cuniculus eukaryotic initiation factor 2B-epsilon mRNA, complete cds	2.3
4669	AY031967	HIV-1 isolate NC5413-1999 from USA pol polyprotein (pol) gene, partial cds	0.67
4670	AF026069	Homo sapiens phosphomevalonate kinase (HUMPMKI) gene, partial cds	6.1
4671	XM_005151	Homo sapiens RecQ protein-like 4 (RECQL4), mRNA	6.1
4672	M34662	Human chaperonin (HSP60) non-functional pseudogene 2	5.3
4674	AF009255	Homo sapiens putative chloride channel gene (CLCN6), exons 14, 15, 16, and 17	2.1
4675	AF298224	Homo sapiens RPCI-II 289E13 CD21 gene, partial cds	0.00004
4676	NC_002087	Plasmid pRL765, complete sequence	0.7
4677	AF270613	Homo sapiens clone 5qtel_ctg0024_c103t3c80t7_stelrpt sequence	0.078
4678	AP001467	Homo sapiens genomic DNA, chromosome 21q22.3, clone:21B27A14, telomere region, complete sequence	0.000001
4679	AY026945	Rattus norvegicus T:G mismatch thymine glycosylase mRNA, complete cds	2.1
4680	NM_017783	Homo sapiens hypothetical protein FLJ20357 (FLJ20357), mRNA	0.67
4681	Z57523	H.sapiens CpG island DNA genomic MseI fragment, clone 182d9, reverse read cpg182d9.rt1b	3E-55
4682	U11761	Cryptosporidium parvum KSU-1 heat shock 70 kDa protein (hsp70) gene, complete cds	0.076
4683	AF142642	Picea abies isolate D nad1 gene, intron b/c; mitochondrial gene for mitochondrial product	0.08
4684	XM_018315	Homo sapiens hypothetical protein FLJ12078 (FLJ12078), mRNA	0.64



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4685	U60297	Gallus gallus DNA polymerase gamma mRNA, nuclear gene encoding mitochondrial protein, partial cds	0.65
4686	M17837	D.melanogaster (strain Ja-F) alcohol dehydrogenase gene (allele Adh-F), complete cds	0.08
4687	X17265	Human germline kappa-immunoglobulin variable region (V-kappa-II) gene Vcc	0.25
4688	XM_030896	Homo sapiens similar to hypothetical protein MGC5384 (H. sapiens) (LOC90321), mRNA	7E-32
4689	AF083064	Mus musculus paxillin-like protein (Hic5) gene, complete cds	e-103
4690	X57248	L.helveticus galK, galT and galM genes for galactokinase, galactose-1-P uridyl transferase and mutarotase, partial cds	0.003
4692	AF074020	Mus musculus integral membrane protein 2A (Itm2a) gene, complete cds	0.059
4693	D17668	Clostridium septicum gene for alpha-toxin, complete cds	0.08
4694	AF089042	Molothrus badius cytochrome b (cytb) gene, mitochondrial gene encoding mitochondrial protein, partial cds	0.076
4695	AK004553	Mus musculus adult male lung cDNA, RIKEN full-length enriched library, clone:1200002O22, full insert sequence	0.63
4696	AF047579	Bacillus thuringiensis insecticidal crystal protein (NRcryV) gene, complete cds	0.69
4697	AF049489	Canis familiaris factor VIII mRNA, complete cds	6.3
4698	X57599	S.xylosus xylR, xylA, xylB genes for Xyl repressor, xylose isomerase, xylulokinase	0.024
4699	L04873	Mus musculus cystic fibrosis transmembrane regulator (CFTR) gene, exon 1, and upstream region	0.25
4700	XM_041483	Homo sapiens hypothetical protein MGC15827 (MGC15827), mRNA	2.2
4701	U30355	Plocamium cartilagineum complete internal transcribed spacer region including ITS 1, 5.8s rDNA and ITS 2	0.082
4702	AF346599	Gallus gallus myostatin (MSTN) gene, exons 1,2 and 3 and complete cds	1.8
4703	XM_007118	Homo sapiens A kinase (PRKA) anchor protein 11 (AKAP11), mRNA	6.2
4704	XM_042395	Homo sapiens superkiller viralicidic activity 2 (S. cerevisiae homolog)-like (SKIV2L), mRNA	3.5
4705	Z78791	H.sapiens flow-sorted chromosome 6 HindIII fragment, SC6pA16H6	2E-08
4706	AE006402	Lactococcus lactis subsp. lactis IL1403 section 164 of 218 of the complete genome	0.7
4707	X97876	H.sapiens EP4 prostaglandin receptor pseudogene C17	6.6
4708	AP001438	Homo sapiens genomic DNA, chromosome 21q22.2, clone:T695, LB7T-ERG region, complete sequence	0.0001
4709	XM_049375	Homo sapiens WW domain binding protein 4 (formin binding protein 21) (WBP4), mRNA	3E-16
4710	AB016828	Luehdorfia longicaudata mitochondrial ND5 gene for NADH dehydrogenase subunit 5, partial cds	0.45

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4711	U23439	Bovine herpesvirus 4 1.1-kb mRNA	0.64
4712	AP001438	Homo sapiens genomic DNA, chromosome 21q22.2, clone:T695, LB7T-ERG region, complete sequence	0.00003
4713	AP000378	Arabidopsis thaliana genomic DNA, chromosome 5, BAC clone:T4M5	0.24
4714	AC064850	Homo sapiens clone RP11-117H9, complete sequence	0.009
4715	Z93943	Human DNA sequence from cosmid U235H3 on chromosome X	0.006
4716	AJ132901	Drosophila guanche mitochondrial A+T-rich region	0.052
4717	AE006291	Lactococcus lactis subsp. lactis IL1403 section 53 of 218 of the complete genome	0.24
4718	AF227741	Rattus norvegicus protein kinase WNK1 (WNK1) mRNA, complete cds	6.1
4720	Z73524	S.cerevisiae chromosome XVI reading frame ORF YPL168w	0.072
4721	AF142484	Sebastes melanops microsatellite Sme2 sequence	0.19
4722	X51938	D. melanogaster DNA for a region 3' to the white gene, corresponding to the FB-NOF insertion site in TE146	2
4723	Z80361	H.sapiens HLA-DRB pseudogene, repeat region;	0.55
4724	AF312620	Plasmodium vivax clone C19b thrombospondin-related adhesive protein gene, partial cds	2.1
4725	XM_017198	Homo sapiens hypothetical protein FLJ12085 (FLJ12085), mRNA	1E-35
4726	AJ408943	Homo sapiens chromosomal breakpoint fragment derivative 11, MLL/AF4 fusion, patient UPN051	0.001
4727	XM_050754	Homo sapiens KIAA1594 protein (KIAA1594), mRNA	0.5
4728	AE002938	Drosophila melanogaster genomic scaffold 142000013385520, complete sequence	0.008
4729	AE001390	Plasmodium falciparum chromosome 2, section 27 of 73 of the complete sequence	0.21
4730	AK000109	Homo sapiens cDNA FLJ20102 fis, clone COL04783	2.1
4731	AF163325	Trichoderma harzianum mitochondrial plasmid pThr1, complete plasmid sequence	0.028
4732	AL137277	Homo sapiens mRNA; cDNA DKFZp434M1114 (from clone DKFZp434M1114)	1.9
4733	U43145	Plasmodium chabaudi repeat organellar protein gene, complete cds	0.64
4734	X71875	H.sapiens gene for protein serine kinase PSK-H1, first coding exon	1.7
4735	AE001479	Helicobacter pylori, strain J99 section 40 of 132 of the complete genome	0.74
4736	M29586	Elops saurus Ig germline H-chain pseudogene V-region, partial cds	0.66
4737	AK020838	Mus musculus adult retina cDNA, RIKEN full-length enriched library, clone:A930009F24, full insert sequence	0.025
4738	AB038343	Melon yellow spot virus NSs and N genes for nonstructural protein and nucleoprotein, complete cds, isolate:Tospo-melo	0.68
4739	AB005130	Candida maltosa gene for EPD1, complete cds	0.25

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4740	AF361581	Arabidopsis thaliana AT4g35320/F23E12_120 gene, complete cds	1.9
4741	Z75032	S.cerevisiae chromosome XV reading frame ORF YOR124c	0.025
4742	U17681	Human neurofibromatosis 1 (NF1) gene, exons 16, 17, 18 and 19a	0.45
4743	AK025048	Homo sapiens cDNA: FLJ21395 fis, clone COL03557	0.66
4744	AF198444	Homo sapiens 10q21 mRNA sequence	0.008
4745	AE005556	Escherichia coli O157:H7 EDL933 genome, contig 3 of 3, section 175 of 290	0.71
4746	X74784	M.musculus mk2e mRNA	0.17
4747	AB029480	Oryzias latipes gene for Y3 olfactory receptor, complete cds	0.077
4749	AF072932	Medicago sativa cold acclimation responsive protein CAR1 (CAR1) mRNA, complete cds	0.66
4750	AF176056	Capitonus sp. 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.009
4751	X03366	Bovine spleen trypsin inhibitor II (SI) gene	0.12
4752	L22951	Human immunodeficiency virus type 1 (UG275) proviral DNA encoding env, tat, vpu, rev, and nef genes	0.23
4753	U95851	Amblyomma darwini 12S ribosomal RNA gene, mitochondrial gene for mitochondrial RNA, partial sequence	5.4
4754	AE001372	Plasmodium falciparum chromosome 2, section 9 of 73 of the complete sequence	2.2
4755	AF147813	Protrama radicis elongation factor 1 alpha gene, partial cds	0.24
4756	U77974	Tribolium castaneum transcription factor homolog (Tc-eve) gene, complete cds	0.003
4757	XM_045423	Homo sapiens KIAA0701 protein (KIAA0701), mRNA	6.3
4758	J04357	Red clover necrotic mosaic virus RNA-1, complete sequence	0.96
4759	XM_010136	Homo sapiens O-linked N-acetylglucosamine (GlcNAc) transferase (UDP-N-acetylglucosamine:polypeptide-N-acetylglucosaminyl transferase) (OGT), mRNA	0.69
4760	XM_030855	Homo sapiens similar to KIAA1361 protein (H. sapiens) (LOC90315), mRNA	0.008
4761	AY031575	HIV-1 isolate NC5000-1999 from USA pol polyprotein (pol) gene, partial cds	6.2
4762	XM_007592	Homo sapiens Homer, neuronal immediate early gene, 2 (HOMER-2B), mRNA	2.2
4763	AC016707	Homo sapiens BAC clone RP11-221K4 from Y, complete sequence	0.75
4764	AF001848	Oxytricha nova phosphoglycerate kinase (PGK) gene, complete cds	5.7
4765	BC006693	Mus musculus, clone MGC:7897 IMAGE:3582679, mRNA, complete cds	1.9
4766	L81574	Homo sapiens (subclone 7_g1 from P1 H11) DNA sequence, complete sequence	0.00003
4767	U67508	Methanococcus jannaschii section 50 of 150 of the complete genome	0.23

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4768	AY021494	Oryza sativa microsatellite MRG3819 containing (TA)X27, genomic sequence	0.023
4769	L75945	Borrelia burgdorferi flagellar hook protein (flgE), flbD, flagellar motor apparatus (motAB), fliL, fliM, fliZ, flagellar export apparatus (fliPQR, flhB), flhF, flbE genes	0.76
4770	AL590606	S.pombe chromosome II BAC pB7E8	0.068
4771	AF060728	Conospermum mitchellii chloroplast atpB-rbcL intergenic spacer region, partial sequence	0.2
4772	AB056833	Macaca fascicularis brain cDNA clone:QflA-14255, full insert sequence	0.068
4773	AP001416	Homo sapiens genomic DNA, chromosome 21q22.2, clone:D34, LB7T-ERG region, complete sequence	0.0003
4774	XM_007838	Homo sapiens nuclear factor of activated T-cells 5, tonicity-responsive (NFAT5), mRNA	0.59
4775	AC024777	Caenorhabditis elegans cosmid Y42H9AR, complete sequence	0.74
4776	AF333186	Dictyostelium discoideum beta-alanine synthase (pyd3) mRNA, complete cds	0.057
4778	D01021	Anthocidaris crassispina mRNA for dynein beta-heavy chain, complete cds	0.69
4779	U65750	Xenopus laevis fork head related (XFD-1') gene, complete cds	0.079
4780	NM_008176	Mus musculus GRO1 oncogene (Gro1), mRNA	1.8
4781	M88115	Hylobates lar Myc gene, complete cds	0.73
4782	AP000388	Arabidopsis thaliana genomic DNA, chromosome 3, P1 clone:MRI12	0.022
4783	AE007246	Sinorhizobium meliloti plasmid pSymA section 52 of 121 of the complete plasmid sequence	6.7
4784	XM_043069	Homo sapiens KIAA1464 protein (KIAA1464), mRNA	0.08
4785	U41482	Human Down Syndrome region of chromosome 21 genomic sequence, clone A39D1-1H8	0.001
4786	AL110134	Homo sapiens mRNA; cDNA DKFZp564H072 (from clone DKFZp564H072)	0.058
4787	XM_005044	Homo sapiens KIAA0628 gene product (KIAA0628), mRNA	0.002
4788	XM_052430	Homo sapiens E3 ubiquitin ligase SMURF1 (SMURF1), mRNA	2E-30
4790	NM_031320	Rattus norvegicus cadherin EGF LAG seven-pass G-type receptor 3 (Celsr3), mRNA	1.9
4791	AF184590	Plasmodium falciparum ADA2-like protein gene, partial cds	0.009
4792	AF061434	Vicia faba amino acid transporter a (AAPA) mRNA, partial cds	1.9
4793	AL117594	Homo sapiens mRNA; cDNA DKFZp564C1563 (from clone DKFZp564C1563)	0.074
4794	AJ133025	Megaselia abdita zen gene, exons 1-2	0.02
4795	XM_033087	Homo sapiens hypothetical protein FLJ20359 (FLJ20359), mRNA	0.024
4796	AE001462	Helicobacter pylori, strain J99 section 23 of 132 of the complete genome	1.1
4797	XM_042814	Homo sapiens hypothetical protein FLJ13397 (FLJ13397), mRNA	0.063

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4798	AL137325	Homo sapiens mRNA; cDNA DKFZp434M0835 (from clone DKFZp434M0835)	2E-14
4799	AB030620	Mus musculus Chetk-alpha gene for choline/ethanolamine kinase-alpha, exon 4, 5, 6, 7, 8	0.64
4800	AB037417	Oryza sativa gene for aspartate carbamoyl transferase, complete cds	0.026
4801	AK024522	Homo sapiens cDNA: FLJ20869 fis, clone ADKA02377	0.21
4802	X62463	H.sapiens 3' flanking region for estrogen receptor (placenta) gene	0.7
4803	AE001127	Borrelia burgdorferi (section 13 of 70) of the complete genome	0.2
4804	Z70751	Caenorhabditis elegans cosmid F11A3, complete sequence	0.22
4805	XM_038231	Homo sapiens KIAA0793 gene product (KIAA0793), mRNA	6E-53
4806	AF223425	Mus musculus MAB21L2 (MAB21I2) gene, complete cds	4.5
4807	XM_039048	Homo sapiens hypothetical protein MGC11303 similar to Zink transporter 2 (MGC11303), mRNA	2
4808	U75604	Tilapia nilotica type I estrogen receptor mRNA, complete cds	0.057
4809	XM_015243	Homo sapiens stimulated trans-acting factor (50 kDa) (STAF50), mRNA	1.7
4810	AF247970	Caenorhabditis elegans cell cycle checkpoint protein Rad9 gene, complete cds	0.008
4811	X12574	Parsley PcPR1-2 mRNA for pathogenesis-related protein type A	0.077
4812	AF332562	Simian virus 40 strain 777, complete genome	0.64
4813	XM_005118	Homo sapiens general transcription factor IIE, polypeptide 2 (beta subunit, 34kD) (GTF2E2), mRNA	1
4814	BC006700	Mus musculus, Similar to RIKEN cDNA 2310035M22 gene, clone MGC:6680 IMAGE:3501285, mRNA, complete cds	0.21
4815	AB025319	Yaba monkey tumor virus DNA, BamHI restriction fragment E, M and partial C, partial and complete cds	0.18
4816	XM_048433	Homo sapiens ATPase, H+ transporting, lysosomal (vacuolar proton pump), subunit 1 (ATP6S1), mRNA	0.55
4817	Y11095	Rice stripe virus RNA 3	5.9
4818	AL589991	Human DNA sequence from clone RP11-241J5 on chromosome 6, complete sequence [Homo sapiens]	3E-78
4819	XM_043498	Homo sapiens G protein-coupled receptor 44 (GPR44), mRNA	0.0002
4820	XM_047477	Homo sapiens KIAA1638 protein (KIAA1638), mRNA	0.077
4821	AJ242480	Streptococcus thermophilus ORF1, ORF2, ORF3, ORF4, ORF5 and ORF6 DNA, strain St0	0.18
4822	XM_016395	Homo sapiens region containing hypothetical protein; mutL (E. coli) homolog 3 (LOC82389), mRNA	6E-74
4823	XM_043492	Homo sapiens 42259 (KIAA1728), mRNA	0.0000006
4824	L43603	Gallus gallus Na+/K+-ATPase alpha-1 subunit gene, promoter region	0.41
4825	AF257746	Rattus norvegicus multidrug resistance protein 1a (Pgy1) mRNA, complete cds	0.5
4826	X68794	D.melanogaster "ten-a" mRNA for secreted protein	1.2

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4827	AF330118	Homo sapiens voltage-gated sodium channel type III alpha subunit (SCN3A) gene, exon 2	0.12
4828	XM_011230	Homo sapiens ALL1 fused gene from 5q31 (AF5Q31), mRNA	5.8
4829	XM_030669	Homo sapiens hypothetical gene supported by AL133011 (LOC90288), mRNA	1.9
4830	U36927	Plasmodium yoelii rhoptry protein gene, complete cds	0.21
4831	AF201353	Columba livia glutamate receptor C gene, partial cds	5
4832	AF331435	HIV-1 D2 from Australia envelope protein (env) gene, partial cds	0.07
4833	AF362391	Candida albicans heat shock protein Hsp104 (HSP104) gene, HSP104-b allele, complete cds	1.1
4834	XM_027927	Homo sapiens hypothetical gene supported by Z97017 (LOC89989), mRNA	0.48
4835	AE001127	Borrelia burgdorferi (section 13 of 70) of the complete genome	0.72
4836	AL390126	S. pombe chromosome III cosmid c233	0.023
4837	AF110213	Rattus norvegicus insulin receptor precursor, exon 14	0.56
4838	M38534	Paramecium aurelia immobilization antigen (51C) gene, exon 5 and complete cds	0.015
4839	AE001430	Plasmodium falciparum chromosome 2, section 67 of 73 of the complete sequence	0.052
4840	AF181475	Mus musculus synaptonemal complex protein 3 (Sycp3) gene, exon 5	0.19
4841	AF177242	Bodo saltans clone pBME40 mitochondrial minicircle DNA	0.024
4842	XM_004347	Homo sapiens elongation of very long chain fatty acids (FEN1/Elo2, SUR4/Elo3, yeast)-like 2 (ELOVL2), mRNA	0.66
4843	AF083494	Mus musculus phospholipase D1 (PLD1) gene, exons 23 and 24, complete sequence	0.53
4844	U89684	Lycopersicon esculentum protein kinase (LePK7) gene, partial cds	0.22
4845	AB025716	Staphylococcus aureus gene for FmtB, complete cds	0.57
4846	AF017180	Schizosaccharomyces pombe hexose transporter (Ght2) mRNA, complete cds	0.87
4847	Z26314	P.falciparum gene for STARP antigen	0.007
4848	XM_045160	Homo sapiens KIAA0275 gene product (KIAA0275), mRNA	1
4849	AK016495	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4931431C02, full insert sequence	0.62
4850	BC004496	Homo sapiens, Similar to hypothetical protein FLJ14058, clone IMAGE:3831313, mRNA	1.7
4851	XM_005684	Homo sapiens tolloid-like 2 (TLL2), mRNA	1.6
4852	AF249077	Sphaerotheca pluvialis cytochrome b (cytb) gene, partial cds; mitochondrial gene for mitochondrial product	0.047
4853	XM_016934	Homo sapiens hypothetical protein FLJ12891 (FLJ12891), mRNA	5.4
4854	X65747	R.norvegicus gnat-3 mRNA for gustducin	0.2
4855	XM_011705	Homo sapiens paraneoplastic antigen MA2 (PNMA2), mRNA	0.2

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4856	L10692	Arabidopsis thaliana cytosine-5 methyltransferase mRNA, complete cds	2.1
4857	AB052250	Arabidopsis thaliana gene for MYB transcription factor Atmyb2, complete cds, strain:Yo-0	0.36
4859	XM_033535	Homo sapiens region containing tryptase beta 2; tryptase beta 1 (LOC82314), mRNA	1.3
4860	U49846	Rattus norvegicus stem cell factor gene, 5' flanking region and exon 1, partial sequence	0.18
4861	AJ244021	Tetrahymena thermophila kin2 gene for kinesin-II homologue, exons 1-4	0.063
4862	AF201021	Stachyarrhena sp. Jansen-Jacobs 4707 ribosomal protein S16 (rps16) gene, partial intron sequence; chloroplast gene for chloroplast product	0.057
4863	AJ245636	Mus musculus P2Y1 gene for P2Y1 receptor	0.2
4864	AK023175	Homo sapiens cDNA FLJ13113 fis, clone NT2RP3002590	0.2
4865	XM_034638	Homo sapiens hypothetical gene supported by AK024355 (LOC90867), mRNA	1E-08
4866	AB011006	Rattus norvegicus gene for leptin receptor, partial cds	5.5
4867	XM_031128	Homo sapiens hypothetical protein DKFZp7611172 (DKFZP7611172), mRNA	0.22
4868	AK001442	Homo sapiens cDNA FLJ10580 fis, clone NT2RP2003533	2E-12
4870	AF307954	Saccharomyces servazzii 46.1 kDa protein, KAR4-like protein, and SPB1-like protein genes, complete cds	0.19
4871	AF055079	Panulirus argus inositol 1,4,5-trisphosphate receptor (IP3R) mRNA, complete cds	6
4872	X88849	C.coli ceuB, ceuC, ceuD, ceuE, OrfA, OrfB genes	0.0008
4873	XM_039699	Homo sapiens hypothetical protein FLJ23309 (FLJ23309), mRNA	3E-42
4874	AF212847	Lactococcus lactis bacteriophage ul36.2 ORF111b (ORF111b), ORF78b (ORF78b), ORF61b (ORF61b), ORF245 (ORF245), ORF364 (ORF364), and putative replisome organizer (ORF255) genes, complete cds; and ORF241 (ORF241) gene, partial cds	1.9
4875	XM_052223	Homo sapiens DKFZP564G092 protein (DKFZP564G092), mRNA	0.69
4876	AK024606	Homo sapiens cDNA: FLJ20953 fis, clone ADSE01979	3E-89
4877	U96097	Clavibacter michiganensis subsp. sepedonicus species-specific DNA clone Cms85	0.47
4878	Z48599	L.mexicana lmcpc gene cathepsin B-like cysteine proteinase	0.063
4879	NM_014160	Homo sapiens HSPC070 protein (HSPC070), mRNA	5
4880	XM_031388	Homo sapiens NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 5 (13kD, B13) (NDUFA5), mRNA	0.55
4881	AF059531	Homo sapiens protein arginine N-methyltransferase 3 (PRMT3) mRNA, partial cds	0.18
4882	AF240700	Gymnocrotaphus curvidens cytochrome b (cytb) gene, partial cds; mitochondrial gene for mitochondrial product	0.65

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4883	AE005988	Caulobacter crescentus section 314 of 359 of the complete genome	2
4884	AF332785	Neocalanus plumchrus cytochrome oxidase subunit I (COI) gene, partial cds; mitochondrial gene for mitochondrial product	0.65
4885	AJ278986	Pichia etchellsii plasmid pPE1B	0.051
4886	AL512660	Human DNA sequence from clone RP11-353M9 on chromosome 10, complete sequence [Homo sapiens]	6.3
4887	AF147082	Homo sapiens gamma-glutamyl hydrolase gene, exons 3 through 7	2
4888	AL389874	Human DNA sequence from clone RP11-563A22 on chromosome 20 Contains the 5' end of a novel gene weakly similar to Xenopus laevis putative Zic3 binding protein, complete sequence [Homo sapiens]	0.008
4889	AC084157	Caenorhabditis elegans cosmid Y46E12BR, complete sequence	0.084
4891	AE001183	Borrelia burgdorferi (section 69 of 70) of the complete genome	0.66
4892	AE002137	Ureaplasma urealyticum section 38 of 59 of the complete genome	0.52
4893	XM_028606	Homo sapiens Sp1 transcription factor (SP1), mRNA	5
4894	NC_001453	Strongylocentrotus purpuratus mitochondrion, complete genome	6
4895	AK023104	Homo sapiens cDNA FLJ13042 fis, clone NT2RP3001318	0.064
4896	XM_015243	Homo sapiens stimulated trans-acting factor (50 kDa) (STAF50), mRNA	1.7
4897	XM_043823	Homo sapiens hypothetical protein FLJ20958 (FLJ20958), mRNA	0.000004
4898	AB049900	Macaca fascicularis brain cDNA, clone:QnpA-19713	6.1
4899	AE001390	Plasmodium falciparum chromosome 2, section 27 of 73 of the complete sequence	0.23
4900	AE007346	Streptococcus pneumoniae section 29 of 194 of the complete genome	0.73
4901	X17339	Dengue-2 virus NS1 gene for nonstructural protein (patient M2)	0.24
4902	AK000864	Homo sapiens cDNA FLJ10002 fis, clone HEMBA1000046	0.00001
4903	AF180076	Panorpa helena cytochrome oxidase I (COI) gene, partial cds; mitochondrial gene for mitochondrial product	0.6
4904	AC008855	Homo sapiens chromosome 5 clone CTD-2178M23, complete sequence	3E-12
4905	K02990	Human hepatitis A virus, complete genome	0.23
4906	AE005310	Escherichia coli O157:H7 EDL933 genome, contig 1 of 3, section 134 of 155	0.078
4907	NM_032717	Homo sapiens hypothetical protein MGC11324 (MGC11324), mRNA	0.68
4908	BC004118	Homo sapiens, clone MGC:11170 IMAGE:3843148, mRNA, complete cds	1.5
4909	L29252	Human (clone D13-2) L-iditol-2 dehydrogenase gene, exon 4, exon 5, exon 6 and exon 7	0.0000001
4910	S68117	rPLP-A=prolactin-like protein A {5' region, exon 1, intron 1} [rats, Genomic, 1187 nt]	0.11



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4911	NM_016701	Mus musculus nestin (Nes), mRNA	0.21
4912	AE006418	Lactococcus lactis subsp. lactis IL1403 section 180 of 218 of the complete genome	0.009
4913	XM_041162	Homo sapiens hypothetical protein KIAA1165 (KIAA1165), mRNA	4E-50
4914	AF147358	Homo sapiens full length insert cDNA clone YB61E03	0.00003
4915	AE000642	Helicobacter pylori 26695 section 120 of 134 of the complete genome	1.9
4916	XM_040436	Homo sapiens nebulin (NEB), mRNA	2
4917	AB026296	Pisum sativum mRNA for hsr203J homolog, complete cds	0.024
4918	AF159148	Danio rerio Noggin 2 mRNA, complete cds	0.23
4919	AF234184	Lucilia cuprina sex-lethal protein SXL2 mRNA, complete cds, alternatively spliced	0.026
4920	AK007229	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:1700121L03, full insert sequence	0.21
4921	AJ404228	Saccharomyces douglasii mitochondrial tRNA gene cluster	0.021
4922	X71604	H.sapiens son-pseudogene	0.53
4923	AF169122	Homo sapiens DNA (cytosine-5) methyltransferase gene, intron 4, partial sequence	0.059
4924	XM_040202	Homo sapiens protein phosphatase, EF hand calcium-binding domain 1 (PPEF1), mRNA	6E-09
4925	AY027893	Homo sapiens voltage-dependent calcium channel beta 2 subunit (CACNB2) gene, exon 1	3.3
4926	AF136008	Desulfobacterium sp. BSv41 16S ribosomal RNA gene, partial sequence	5.6
4927	NM_007439	Mus musculus anaplastic lymphoma kinase (Alk), mRNA	0.071
4928	XM_006758	Homo sapiens frizzled (Drosophila) homolog 10 (FZD10), mRNA	2
4929	AL139329	Human DNA sequence from clone RP11-228P1 on chromosome 6, complete sequence [Homo sapiens]	4E-38
4930	L03188	Saccharomyces cerevisiae integrin analogue gene, complete cds	0.23
4931	AB039881	Canis familiaris mRNA for cytochrome P450c21, complete cds	0.55
4932	AK004783	Mus musculus adult male lung cDNA, RIKEN full-length enriched library, clone:1200015E14, full insert sequence	6.2
4933	U41343	Human prolargin (PRELP) gene, exon 2	0.0000004
4934	AF157369	Homo sapiens Niemann-Pick C1 protein (NPC1) gene, exon 5	0.58
4935	XM_016505	Homo sapiens KIAA0999 protein (KIAA0999), mRNA	9E-26
4936	U07807	Human metallothionein IV (MTIV) gene, complete cds	0.008
4937	NM_018818	Mus musculus choroideremia (Chm), mRNA	1.7
4938	BC009075	Mus musculus, beta-1,3-N-acetylglucosaminyltransferase 1, clone MGC:6892 IMAGE:2654354, mRNA, complete cds	1.2
4939	AF304354	Homo sapiens proteoglycan 3 (PRG3) gene, complete cds	0.24
4940	AK000864	Homo sapiens cDNA FLJ10002 fis, clone HEMBA1000046	0.00001
4941	AF076601	Dictyostelium discoideum developmental protein (DG1105) gene, partial cds	0.95

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4942	AF025542	Bombyx mori insulin receptor-like protein precursor (BIR) mRNA, complete cds	0.64
4943	XM_038714	Homo sapiens hypothetical protein dJ37E16.5 (DJ37E16.5), mRNA	6.3
4944	AC016707	Homo sapiens BAC clone RP11-221K4 from Y, complete sequence	0.054
4945	XM_005684	Homo sapiens tolloid-like 2 (TLL2), mRNA	1.1
4946	AJ276170	Rattus norvegicus partial Vps54l processed pseudogene, 3' end	0.041
4947	AJ132986	Vibrio sp. partial 16S ribosomal RNA, isolate A515	5.9
4948	XM_009513	Homo sapiens hypothetical protein (HSPC207), mRNA	0.21
4949	AF181668	Homo sapiens clone 173p17 polymorphic microsatellite sequence	0.17
4950	AF045453	Dictyostelium discoideum protein kinase YakA (yaka) mRNA, complete cds	0.007
4951	AF279135	Dictyostelium discoideum spore coat structural protein SP65 (cotE) gene, complete cds	0.003
4952	AK012631	Mus musculus 10, 11 days embryo cDNA, RIKEN full-length enriched library, clone:2810001G20, full insert sequence	0.071
4953	AB047630	Macaca fascicularis brain cDNA, clone:QnpA-13555	0.69
4954	AJ011848	Hordeum vulgare chloroplast rps15 (partial), ndhH, ndhI, ndhG, ndhE, psaC, ndhD and ndhA genes	0.054
4955	U34363	Plasmodium falciparum CTRP gene, complete cds	0.18
4956	AF220175	Homo sapiens acid ceramidase (ASAH) gene, exons 5 through 14, and complete cds	0.0009
4958	D26442	Yeast gene for PES4 PAB-like protein, complete cds	0.003
4959	NC_002184	Penaeus monodon mitochondrion, complete genome	1.9
4960	XM_039251	Homo sapiens 37381 (KIAA1660), mRNA	5
4961	XM_004462	Homo sapiens signal sequence receptor, alpha (translocon-associated protein alpha) (SSR1), mRNA	0.72
4962	AF252420	Bos taurus clone MNB-5 microsatellite sequence	0.08
4963	XM_035186	Homo sapiens RCE1 (S. Cerevisiae) homolog, prenyl protein protease (RCE1), mRNA	2
4964	AL110134	Homo sapiens mRNA; cDNA DKFZp564H072 (from clone DKFZp564H072)	0.058
4965	AL049452	Homo sapiens mRNA; cDNA DKFZp586C1322 (from clone DKFZp586C1322)	0.67
4966	AB047614	Macaca fascicularis brain cDNA, clone:QnpA-12025	0.077
4967	XM_043315	Homo sapiens KIAA0229 protein (KIAA0229), mRNA	6.2
4968	AK017495	Mus musculus 8 days embryo cDNA, RIKEN full-length enriched library, clone:5730405K23, full insert sequence	0.025
4969	AB012141	Candida glabrata TEF3 gene for translation elongation factor3, complete cds	0.003
4970	AK022914	Homo sapiens cDNA FLJ12852 fis, clone NT2RP2003445	0.0003
4971	AF133211	Homo sapiens COT kinase proto-oncogene, partial cds, alternatively spliced	0.008

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4972	AF349681	Simian immunodeficiency virus strain SIVrcmNg409 from Nigeria 5' long terminal repeat, partial sequence; gag protein (gag) gene, complete cds; pol protein (pol) gene, partial cds; and vif gene, complete sequence	0.68
4973	AF350254	Homo sapiens fibrinogen gamma chain precursor (FGG) gene, complete cds, alternatively spliced	0.21
4974	AF314052	Rhizobium sp. CIAT613 nifHc gene, partial sequence	1.9
4975	XM_036277	Homo sapiens inhibitor of DNA binding 4, dominant negative helix-loop-helix protein (ID4), mRNA	0.076
4976	AF057740	Homo sapiens 17-beta-hydroxysteroid dehydrogenase IV (HSD17B4) gene, exon 24 and complete cds	0.00003
4977	XM_051777	Homo sapiens similar to NAD(P) dependent steroid dehydrogenase-like (M. musculus) (LOC93517), mRNA	4E-11
4978	AF314052	Rhizobium sp. CIAT613 nifHc gene, partial sequence	2
4979	BC010911	Homo sapiens, Similar to adaptor protein containing pH domain, PTB domain and leucine zipper motif, clone IMAGE:4295177, mRNA	0.076
4980	AF214529	Homo sapiens dystrophin (DMD) gene, intron 51, partial sequence	0.001
4981	AK024235	Homo sapiens cDNA FLJ14173 fis, clone NT2RP2002755	e-104
4982	AB035089	Homo sapiens SCCA2 gene for squamous cell carcinoma antigen 2, complete cds	0.23
4983	M97555	Schistosoma mansoni tropomyosin mRNA, complete cds	0.22
4984	AE002745	Drosophila melanogaster genomic scaffold 142000013385404, complete sequence	0.003
4985	X99288	B.calamita repeat region, clone-lib micro-8	0.23
4987	AJ308840	Coffea arabica microsatellite DNA, clone 16-6CTG	0.025
4988	AB049134	Cucurbita moschata CmATS1;1 gene for acyl-(acyl-carrier-protein): glycerol-3-phosphate acyltransferase, complete cds	0.53
4989	X03991	Human glucagon gene	0.074
4990	AY042871	Arabidopsis thaliana zinc finger-like protein (F3C22_200) mRNA, complete cds	0.077
4991	AF214529	Homo sapiens dystrophin (DMD) gene, intron 51, partial sequence	0.001
4992	AF269319	Staphylococcus epidermidis strain SR1 clone step.1002a02 genomic sequence	2
4993	AB009801	Homo sapiens gene for osteonidogen, intron 2	0.69
4994	M69146	Torulopsis glabrata metal-activated transcription factor (amt1) gene, complete cds	0.65
4995	AL121822	Human DNA sequence from clone 346P11 on chromosome Xq21.2-21.33, complete sequence [Homo sapiens]	5E-09
4996	AF072273	Lactuca sativa resistance protein candidate RGC2N (RGC2N) pseudogene, complete sequence	0.22
4997	AL358273	S.pombe chromosome II cosmid c29C10	0.22
4998	BC010011	Homo sapiens, Similar to RIKEN cDNA 4931428D14 gene, clone MGC:15407 IMAGE:4309613, mRNA, complete cds	0.22

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
4999	AF090889	Homo sapiens clone HQ0092	0.71
5000	M93140	Glycine max cv Prize protein kinase mRNA	2.1
5001	AE005266	Escherichia coli O157:H7 EDL933 genome, contig 1 of 3, section 90 of 155	1.8
5002	AE007350	Streptococcus pneumoniae section 33 of 194 of the complete genome	0.23
5003	BC008973	Homo sapiens, transmembrane protein with EGF-like and two follistatin-like domains 2, clone MGC:17007 IMAGE:4180709, mRNA, complete cds	0.023
5004	X13439	Cochliobolus heterostrophus mitochondrial gene for ATPase subunit 6	0.19
5005	AF138069	HIV-1 p5c028-h from USA envelope glycoprotein (env) gene, partial cds	2.1
5006	NM_002847	Homo sapiens protein tyrosine phosphatase, receptor type, N polypeptide 2 (PTPRN2), mRNA	6
5007	XM_036827	Homo sapiens hypothetical gene supported by X04201; X04588; AK026559; AY004867; BC000771; BC008407; BC008425 (LOC91191), mRNA	1
5008	NM_031389	Mus musculus ribonuclease/angiogenin inhibitor 2 (Rnh2), mRNA	1.7
5009	BC010355	Homo sapiens, Similar to nuclear protein, clone IMAGE:4248516, mRNA	5.4
5010	AE003909	Xylella fastidiosa 9a5c, section 55 of 229 of the complete genome	5.1
5011	NM_031389	Mus musculus ribonuclease/angiogenin inhibitor 2 (Rnh2), mRNA	1.7
5012	XM_016747	Homo sapiens latent transforming growth factor beta binding protein 1 (LTBP1), mRNA	2E-10
5013	M85304	Schistosoma mansoni homeodomain protein (smox-5) mRNA, complete cds	0.009
5014	NC_001398	Saccharomyces cerevisiae 2 micron circle plasmid, complete sequence	0.65
5015	AF267746	Drosophila melanogaster rad21 mitotic cohesin (drad21) gene, exons 3 through 8 and complete cds	0.003
5016	XM_052430	Homo sapiens E3 ubiquitin ligase SMURF1 (SMURF1), mRNA	2E-30
5017	X67813	C.familiaris SRP72 mRNA for signal recognition particle	0.16
5018	AF031848	Dermacentor marginatus 12S ribosomal RNA gene, mitochondrial gene for mitochondrial RNA, partial sequence	0.061
5019	XM_003317	Homo sapiens PDZ domain containing guanine nucleotide exchange factor(GEF)1 (PDZ-GEF1), mRNA	0.67
5020	XM_030673	Homo sapiens methyl-CpG binding domain protein 4 (MBD4), mRNA	0.6
5021	L38957	Saccharomyces cerevisiae nuclear-encoded mitochondrial isoleucyl-tRNA synthetase (ISM1) gene, complete cds	2.1
5022	AF345089	Hepatitis C virus isolate SCpreSC2c14 nonfunctional polyprotein gene, partial sequence	0.59

**Table 3A** Nearest Neighbor (BlastN vs. Genbank)

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5023	AC091124	Caenorhabditis elegans cosmid Y47A7, complete sequence	1.7
5024	X66451	E.octocarinatus RPA2 gene for RNA polymerase I second largest subunit	0.066
5025	XM_010563	Homo sapiens hypothetical gene supported by AB033071; AB051480; AK000726; NM_015383 (LOC92396), mRNA	1E-15
5026	AF256722	Salmo salar clone BHMS458 microsatellite sequence	0.5
5027	AF385609	Homo sapiens minisatellite sequence	5.3
5028	AF355103	Pleurotus ostreatus linear mitochondrial plasmid mlp2, partial sequence	0.18
5029	XM_034863	Homo sapiens similar to hypothetical protein FLJ22294 (H. sapiens) (LOC90918), mRNA	1.8
5030	AF374005	Rattus norvegicus bradykinin B2 receptor gene, promoter sequence	8.3
5031	AK014447	Mus musculus 18 days pregnant adult female placenta and extra embryonic tissue cDNA, RIKEN full-length enriched library, clone:3830421F13, full insert sequence	0.18
5032	AL355577	Human DNA sequence from clone RP11-299G2 on chromosome 6 Contains a GSS, complete sequence [Homo sapiens]	0.0003
5033	AB030616	Mus musculus Chetk-alpha gene for choline/ethanolamine kinase-alpha, exon 1 and 5'-flanking region	6.1
5034	S66671	pol [simian Mason-Pfizer D-type retrovirus SM-PDT, systemic lupus erythematosus patient TFA 68, Genomic RNA, 113 nt]	0.008
5035	AB038481	Codium lucasii chloroplast rbcL gene for ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit, partial cds	0.22
5036	U05013	Rattus norvegicus Sprague-Dawley heme oxygenase-2 non-reducing isoform gene, complete cds	1.9
5037	L81904	Homo sapiens (subclone 1_h7 from P1 H69) DNA sequence, complete sequence	1.7
5038	AF242384	Homo sapiens phytanoyl-CoA hydroxylase (PHYH) gene, exon 7	1.9
5039	X52863	G.max Gy4 gene for glycine	5.9
5040	XM_002625	Homo sapiens ankyrin repeat and SOCS box-containing 3 (ASB3), mRNA	6
5041	U00789	Mus musculus Dp71 (DMD) gene, partial cds	0.068
5042	AB017429	Oryza sativa gene for mitochondrial ribosomal protein S14, succinate dehydrogenase iron-protein subunit (SDHB)	2
5043	U67518	Methanococcus jannaschii section 60 of 150 of the complete genome	0.002
5044	XM_048782	Homo sapiens c6.1A (C6.1A), mRNA	0.2
5045	AB055263	Macaca fascicularis brain cDNA, clone:Qf1A-10674	0.003
5046	S65281	drebrin {clone eDcg5} [chickens, Genomic, 160 nt, segment 3 of 10]	0.61
5047	AF296203	Uncultured bacterium SY6-54 16S ribosomal RNA gene, partial sequence	0.25
5048	X06266	Anthirrhinum majus DNA for transposon tam2	0.007

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5049	AF272387	Homo sapiens leucine zipper nuclear factor (BLZF1) gene, exon 6	7E-22
5050	NC_001587	Human papillomavirus type 34, complete genome	0.25
5051	NM_017078	Rattus norvegicus Acetylcholine receptor alpha 5 (Chrna5), mRNA	0.64
5052	XM_030510	Homo sapiens microfibrillar-associated protein 2 (MFAP2), mRNA	2
5053	Z48433	L.odomensis vicilin pseudogene	0.047
5054	M21084	P.hybrida 5-enolpyruvylshikimate 3-phosphate synthase mRNA, complete cds	0.2
5055	U67518	Methanococcus jannaschii section 60 of 150 of the complete genome	0.002
5056	AF215555	Blakea trinervia NADH dehydrogenase subunit F (ndhF) gene, partial cds; chloroplast gene for chloroplast product	0.63
5057	AE001379	Plasmodium falciparum chromosome 2, section 16 of 73 of the complete sequence	5.4
5059	AF362391	Candida albicans heat shock protein Hsp104 (HSP104) gene, HSP104-b allele, complete cds	4.4
5060	AJ000056	Homo sapiens tyrosine aminotransferase gene, 5' flanking region	0.57
5061	AF112541	HIV-1 isolate 08108v3 from USA, envelope glycoprotein (env) gene, partial cds	0.007
5062	AF300534	Diadasia consociata cytochrome oxidase subunit I gene, partial cds; tRNA-Leu gene, complete sequence; and cytochrome oxidase subunit II gene, partial cds; mitochondrial genes for mitochondrial products	0.22
5063	J00571	Mouse Ig kappa unproductively rearranged V-T2; V-J region	0.001
5064	X95275	P.falciparum complete gene map of plastid-like DNA (IR-A)	0.062
5065	Y09746	H.oligactis mRNA for heat shock protein 70	0.46
5066	X95536	H.sapiens earl gene	2E-64
5067	D10997	C.ellipsoidea rbcL, rps14, trnM, trnG, trnD, trnS, rps4, atpE, atpB genes, complete cds	1.8
5068	Z73968	Caenorhabditis elegans cosmid C05A2, complete sequence	0.67
5069	XM_012733	Homo sapiens KIAA1012 protein (KIAA1012), mRNA	0.24
5070	AE000745	Aquifex aeolicus section 77 of 109 of the complete genome	0.21
5071	AF208521	Diploptera punctata high-affinity Na+-dependent glutamate transporter (EAAT1) mRNA, complete cds	0.08
5072	XM_032656	Homo sapiens mannosidase, alpha, class 2B, member 1 (MAN2B1), mRNA	1.8
5073	Z28063	S.cerevisiae chromosome XI reading frame ORF YKL063c	6.2
5074	XM_050445	Homo sapiens KIAA0164 gene product (KIAA0164), mRNA	0.66
5075	AF265211	Pectobacterium chrysanthemi ArgG (argG) gene, partial cds; regulatory protein PecS (pecS), regulatory protein PecM (pecM), indigoidine synthesis protein IdgA (idgA), and indigoidine synthesis protein IdgB (idgB) genes, complete cds; and indigoidine sys>	0.72

SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5076	X87201	Borrelia burgdorferi plasmid, orfA, B, C, D, F, bdrV genes, clone pOMB14 and pOMB17	0.076
5077	AF120475	Mus musculus myelin-associated oligodendrocytic basic proteins MOBP170 and MOBP69 (Mobp) gene, exons 3 through 5 and complete cds, alternatively spliced	0.0009
5078	AF270407	Staphylococcus epidermidis strain SR1 clone step.4050g06 genomic sequence	0.67
5079	U47138	Inkoo virus SW AR 83-161 nucleocapsid protein and non-structural protein genes, complete cds	0.16
5080	AB049420	Mus musculus DNA, clone:7-1, derived from 4x chromosome of T(X;4)37H translocation	6.5
5081	AF009415	Staphylococcus xylosus choline transporter (cudT), putative regulatory protein (cudC), glycine betaine aldehyde dehydrogenase (cudA), and choline dehydrogenase (cudB) genes, complete cds	0.075
5082	AE001395	Plasmodium falciparum chromosome 2, section 32 of 73 of the complete sequence	0.24
5083	U62542	Drosophila melanogaster dead ringer (dead ringer) mRNA, complete cds	0.12
5084	AL445527	Human DNA sequence from clone RP11-115C2 on chromosome 1, complete sequence [Homo sapiens]	5.5
5085	XM_016052	Homo sapiens LOC86766 (LOC86766), mRNA	0.24
5086	XM_037781	Homo sapiens hypothetical gene supported by J04178 (LOC91343), mRNA	6.4
5087	X96932	N.tabacum gene encoding ascorbate oxidase-related protein	1.6
5088	AJ006986	Streptococcus pneumoniae type 33F DNA, capsular gene cluster	0.019
5089	M60858	Human nucleolin gene, complete cds	0.66
5090	AK026299	Homo sapiens cDNA: FLJ22646 fis, clone HSI07178	0.21
5091	AC006025	Homo sapiens PAC clone RP5-1188N21 from 7q11.23-q21.1, complete sequence	0.67
5092	X03100	Human HLA-SB(DP) alpha gene	1.8
5093	AF181671	Homo sapiens clone 77j13 polymorphic microsatellite sequence	0.055
5094	AF356600	Dictyostelium discoideum filament-interacting protein (fip) mRNA, complete cds	0.19
5095	U36619	Human Y-chromosome RNA recognition motif protein (YRRM) gene, exon 5, partial cds, subclone 7S2	0.023
5096	AF243117	Homo sapiens intrinsic factor-vitamin B12 receptor (CUBN) gene, exons 52 and 53	2
5097	XM_050127	Homo sapiens oligophrenin 1 (OPHN1), mRNA	0.5
5098	AJ251892	Drosophila melanogaster mRNA for LIM domain protein (espinas gene)	0.072
5099	AF036696	Caenorhabditis elegans cosmid F15B10	0.2
5100	AF052294	Mus musculus phospholipase D2 gene, exons 13 through 25 and complete cds	5.7
5101	AK026741	Homo sapiens cDNA: FLJ23088 fis, clone LNG07026	0.003
5102	K02212	Human alpha-1-antitrypsin gene (S variant), complete cds	1.7

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Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5129	AY005107	Pentachondra pumila specimen-voucher Cherry 96/1 maturase (matK) gene, partial cds; chloroplast gene for chloroplast product	2.2
5130	AF195044	Homo sapiens beaded filament component protein (CP49) gene, partial cds	0.57
5131	AK021963	Homo sapiens cDNA FLJ11901 fis, clone HEMBA1007347	0.0005
5132	AF034085	Caenorhabditis elegans UNC-45 (unc-45) gene, complete cds	0.0001
5133	U91929	Mus musculus L1 neural cell adhesion protein gene, 5' sequence and exon 1	2.1
5134	NM_010781	Mus musculus mast cell protease 6 (Mcpt6), mRNA	0.68
5135	AB017918	Mus musculus gene for gross cystic disease fluid protein 15, complete cds	0.001
5136	U55243	Dictyostelium discoideum glyceraldehyde-3-phosphate dehydrogenase (GAPDH) gene, partial cds	0.24
5137	AF061296	Homo sapiens sulfonylurea receptor (SUR2) gene, exon 9	9E-45
5138	AL050314	Human DNA sequence from clone 100G10 on chromosome 22q13.31-13.33. Contains GSSs, complete sequence [Homo sapiens]	6.4
5139	XM_036394	Homo sapiens calcium/calmodulin-dependent protein kinase IV (CAMK4), mRNA	0.003
5140	XM_047419	Homo sapiens LOC87974 (LOC87974), mRNA	0.21
5141	AJ404314	Amphisorus hemprichii 18S rRNA gene, isolate 720	0.71
5142	AF324889	Homo sapiens myosin phosphatase target subunit 2 (MYPT2) gene, exon 1	0.23
5143	J04434	Bacteriophage PBS2 (from B.subtilis) uracil-DNA glycosylase inhibitor gene, complete cds	0.61
5144	XM_041213	Homo sapiens inter-alpha (globulin) inhibitor, H1 polypeptide (ITI1), mRNA	5.5
5145	AF187881	Homo sapiens leukointegrin alpha d gene, promoter and partial cds	0.026
5146	Z70180	P.quinquangularis chloroplast matK gene	2
5147	AK025364	Homo sapiens cDNA: FLJ21711 fis, clone COL10156	0
5148	XM_045594	Homo sapiens hypothetical protein MGC4816 (MGC4816), mRNA	5E-82
5150	AB029068	Mus musculus gene for Ser/Thr kinase KKIAMRE, exon 1, 2, 3, 4, 5	0.63
5151	AF215555	Blakea trinervia NADH dehydrogenase subunit F (ndhF) gene, partial cds; chloroplast gene for chloroplast product	0.71
5152	XM_026967	Homo sapiens hypothetical protein MGC2668 (MGC2668), mRNA	1.9
5153	M32328	C.pipiens esterase B1 gene, complete cds	0.008
5154	U58744	Caenorhabditis elegans cosmid F55F1	0.43
5155	AF228498	Escherichia coli AgaR (agaR), KbaZ (kbaZ), AgaV (agaV), AgaW (agaW), AgaE (agaE), AgaF (agaF), AgaA (agaA), AgaS (agaS), KbaY (kbaY), AgaB (agaB), AgaC (agaC), AgaD (agaD), and AgaI (agaI) genes, complete cds	0.72

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5156	L36898	Saccharomyces cerevisiae mitochondrion transfer RNA-Glu (tRNA-Glu) gene	0.69
5158	D88262	Pisum sativum PsCHS5 gene for chalcone synthase, complete cds	0.7
5159	AK018080	Mus musculus 11 days embryo head cDNA, RIKEN full-length enriched library, clone:6230403H02, full insert sequence	6.4
5160	X95275	P.falciparum complete gene map of plastid-like DNA (IR-A)	0.022
5161	D16417	Dictyostelium discoideum mRNA	0.009
5162	AF267204	Candidatus Carsonella ruddii natural-host Cacopsylla brunneipennis ATP synthase alpha subunit (atpA) gene, partial cds; ATP synthase gamma subunit (atpG) gene, complete cds; and ATP synthase beta subunit (atpD) gene, partial cds	0.026
5163	AF264650	Asterella tenella trnL gene, intron sequence; chloroplast gene for chloroplast product	6.4
5164	AF003143	Caenorhabditis elegans cosmid C53H9, complete sequence	0.23
5165	M19459	Plasmodium falciparum interspersed repetitive DNA and an open reading frame	0.008
5166	AK001362	Homo sapiens cDNA FLJ10500 fis, clone NT2RP2000369	0.23
5167	AF170023	Anopheles gambiae clone I38 genomic sequence	0.57
5168	AJ012333	Buchnera aphidicola plasmid pBTc2, trpE and trpG genes	0.006
5169	AF158077	Pisacha naga 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.019
5170	U68721	Botryotinia fuckeliana endopolygalacturonase 5 (BcPGA5) gene, complete cds	0.21
5171	AK026372	Homo sapiens cDNA: FLJ22719 fis, clone HSI14307	e-116
5172	NM_031130	Rattus norvegicus nuclear receptor subfamily 2, group F, member 1 (Nr2f1), mRNA	3
5173	AY034470	Homo sapiens clone BGL2 mRNA sequence	0.064
5174	AF108841	Homo sapiens human endogenous retrovirus HERV-H10 pol protein (pol) gene, partial cds; env pseudogene and 3' LTR, complete sequence	0.009
5175	AJ251957	Ciona intestinalis mRNA for nuclear lamin (lamin L2 gene)	1.9
5176	XM_045437	Homo sapiens a disintegrin and metalloproteinase domain 33 (ADAM33), mRNA	0.71
5177	AF177983	Homo sapiens NAD+-dependent 15-hydroxyprostaglandin dehydrogenase (PGDH) gene, promoter, exons 1 and 2 and partial cds	9.9
5178	AF181632	Drosophila melanogaster BcDNA.GH05095 (BcDNA.GH05095) mRNA, complete cds	0.23
5179	AK018339	Mus musculus 10 days neonate cerebellum cDNA, RIKEN full-length enriched library, clone:6530414F19, full insert sequence	2.1
5180	XM_050838	Homo sapiens wingless-type MMTV integration site family, member 10A (WNT10A), mRNA	0.22
5181	AJ308588	Medicago truncatula partial mRNA for nodulin 25 (nod25 gene), clone 3	4.3

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5182	AF229797	Homo sapiens cis-golgi SNARE (GOSR1) gene, exon 9 and partial cds	0
5185	Z68107	Caenorhabditis elegans cosmid F48C5, complete sequence	2.1
5186	AY026045	Mus musculus germ cell-specific unknown protein mRNA, complete cds	0.079
5187	AF309515	Staphylococcus aureus serine protease operon, complete sequence	1
5188	AF355103	Pleurotus ostreatus linear mitochondrial plasmid mlp2, partial sequence	0.069
5189	AF055079	Panulirus argus inositol 1,4,5-trisphosphate receptor (IP3R) mRNA, complete cds	5.2
5190	AC007184	Arabidopsis thaliana chromosome II section 163 of 255 of the complete sequence. Sequence from clones T11P11	6.1
5191	AB044348	Arabidopsis thaliana AtSUG1 mRNA, complete cds	1.2
5192	XM_003320	Homo sapiens hypothetical protein FLJ11155 (FLJ11155), mRNA	5.3
5193	AF148987	Legionella fallonii macrophage infectivity potentiator (mip) gene, partial cds	0.067
5194	X54200	Chicken mRNA for GARS-AIRS-GART	0.019
5195	AE005885	Caulobacter crescentus section 211 of 359 of the complete genome	0.62
5196	AF228498	Escherichia coli AgaR (agaR), KbaZ (kbaZ), AgaV (agaV), AgaW (agaW), AgaE (agaE), AgaF (agaF), AgaA (agaA), AgaS (agaS), KbaY (kbaY), AgaB (agaB), AgaC (agaC), AgaD (agaD), and AgaI (agaI) genes, complete cds	0.63
5197	U09859	Bos taurus enterokinase mRNA, complete cds	6.2
5198	AF057708	Populus balsamifera subsp. trichocarpa PTD protein (PTD) gene, complete cds	0.68
5199	AF238381	Homo sapiens PTOV1 (PTOV1) gene, complete cds	0.18
5200	AF119554	Plasmodium falciparum para-aminobenzoic acid synthetase gene, complete cds	0.13
5201	X82675	B.taurus BoLA-A11 gene (exon 6-8)	0.71
5202	AF303087	Tilapia mossambica glycoprotein alpha subunit mRNA, partial cds	0.64
5203	NM_006649	Homo sapiens serologically defined colon cancer antigen 16 (SDCCAG16), mRNA	1.7
5204	AF240597	Homo sapiens clone 7ptelc11t7 sequence	e-112
5205	BC006702	Mus musculus, RIKEN cDNA 4930529O08 gene, clone MGC:7935 IMAGE:3583936, mRNA, complete cds	6.3
5206	AF295769	Mus musculus SMAD1 gene, intron 1, partial sequence	0.007
5207	AF118099	Toxoplasma gondii PITSLRE-like protein kinase (tpk1) gene, partial cds	1.9
5208	AF143952	Homo sapiens PELOTA (PELOTA) gene, complete cds	0.44
5209	AF028710	Influenza A virus (A/HongKong/156/97(H5N1)) nucleoprotein mRNA, complete cds	1.7
5210	XM_017097	Homo sapiens active BCR-related gene (ABR), mRNA	0.7



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5237	Z16681	H. sapiens (D8S266) DNA segment containing (CA) repeat; clone AFM151ye3; single read	0.003
5238	AB049452	Staphylococcus epidermidis composite transposon DNA, complete sequence	0.077
5239	X83673	X.laevis SSB1 gene	1.5
5240	XM_045182	Homo sapiens serine (or cysteine) proteinase inhibitor, clade F (alpha-2 antiplasmin, pigment epithelium derived factor), member 2 (SERPINF2), mRNA	6.2
5241	AF263074	Cobitis paludica cytochrome b gene, partial cds; mitochondrial gene for mitochondrial product	0.15
5242	XM_029785	Homo sapiens Kell blood group (KEL), mRNA	2.1
5243	AE006148	Pasteurella multocida PM70 section 115 of 204 of the complete genome	5.5
5244	X81975	B.vulgaris mRNA for sucrose 6-phosphate synthase	1.3
5245	NM_033105	Homo sapiens beta cysteine string protein (LOC85479), mRNA	0.000006
5246	AC006164	Homo sapiens clone UWGC:y28gap from 6p21, complete sequence	0.47
5247	AJ279971	Canis familiaris microsatellite DNA, clone DTRcn.20	0.022
5248	AE005618	Escherichia coli O157:H7 EDL933 genome, contig 3 of 3, section 237 of 290	0.56
5249	AJ012338	Listeria monocytogenes NotI restriction site number two and flanking sequences	1.6
5251	D14027	Mouse DNA for TL antigen, complete cds	5
5252	Y12285	H.armigera mRNA for putative serine protease, clone SR106	0.009
5253	AF281912	Homo sapiens clone 16qtel_c89bt7 sequence	1E-68
5254	NC_001790	Ovine papillomavirus 2, complete genome	0.61
5255	XM_031110	Homo sapiens kallikrein 10 (KLK10), mRNA	0.041
5256	XM_042732	Homo sapiens guanine nucleotide binding protein (G protein), alpha inhibiting activity polypeptide 3 (GNAI3), mRNA	0.42
5257	XM_033541	Homo sapiens KIAA0704 protein (ORP3), mRNA	0.022
5258	AL512432	Human DNA sequence from clone RP11-245H22 on chromosome 6 Contains GSSs, complete sequence [Homo sapiens]	0.0001
5259	S82508	Human adenovirus type 9 E4 protein (E4), Orf2, Orf3, Orf4, and Orf6 genes, complete cds; and Orf7 gene, partial cds	1.6
5260	XM_015579	Homo sapiens hypothetical protein FLJ13105 (FLJ13105), mRNA	1.2
5261	AF009177	Helicobacter pylori pfs protein homolog (pfs) and sigma 80 (rpoD) genes, complete cds	0.6
5262	AB015470	Arabidopsis thaliana genomic DNA, chromosome 5, TAC clone:K1B16	5.2
5264	L08970	Nematode choline acetyltransferase (cha-1) gene, exons 1-11 and complete cds	0.29
5265	D88193	Brassica rapa DNA for S-receptor kinase, complete cds	0.69
5266	XM_046294	Homo sapiens testis expressed sequence 15 (TEX15), mRNA	0.21
5267	XM_027078	Homo sapiens ATPase, Class V, type 10D (ATP10D), mRNA	0.22

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5268	AK019309	Mus musculus adult male hippocampus cDNA, RIKEN full-length enriched library, clone:2900009I19, full insert sequence	2E-13
5269	NM_016985	Mus musculus myotubularin related protein 1 (Mtmr1), mRNA	0.0004
5270	AK020049	Mus musculus 13 days embryo male testis cDNA, RIKEN full-length enriched library, clone:6030408K18, full insert sequence	1.8
5271	AF323989	Danio rerio transcriptional intermediary factor 2 mRNA, complete cds	6.3
5272	AF175275	Pisum sativum trans-cinnamic acid hydroxylase (CYP73A9) gene, CYP73A9-v1 allele, partial cds	0.073
5274	AF327749	Mus musculus smoothelin gene, promoter and partial sequence	6E-11
5275	AJ276633	Glomus mosseae partial TOR2 gene, exons 1-9	6
5276	AF110612	Boophilus microplus cytochrome b apoenzyme (Cytb) gene, partial cds; tRNA-Ser, tRNA-Leu, tRNA-Cys, and tRNA-Met genes, complete sequence; and NADH dehydrogenase subunit 2 (ND2) gene, partial cds, mitochondrial genes for mitochondrial products	0.072
5278	XM_043395	Homo sapiens fatty acid desaturase 2 (FADS2), mRNA	3E-36
5279	XM_046528	Homo sapiens zinc finger protein 133 (clone pHZ-13) (ZNF133), mRNA	2
5280	U20807	Bos taurus protein tyrosine phosphatase BA14 mRNA, complete cds	0.19
5281	XM_036368	Homo sapiens hypothetical gene supported by AK026802 (LOC91132), mRNA	0.026
5282	XM_007023	Homo sapiens G protein-coupled receptor kinase-interactor 2 (GIT2), mRNA	7E-44
5283	U86362	Saccharomyces cerevisiae MAL gene divergent promoter region, and hypothetical protein, complete cds	0.24
5284	Y11740	H.sapiens whn gene, exon 1a and 1b	0.22
5285	S78915	{Mu1 element insertion site, clone 11} [maize, Transposon, 300 nt]	0.002
5286	AF310896	Dictyostelium discoideum RacJ (racJ) gene, complete cds; LagC-like protein (lagC3) gene, partial cds; and unknown genes	0.23
5287	AJ012333	Buchnera aphidicola plasmid pBTc2, trpE and trpG genes	0.027
5288	AF282046	Homo sapiens clone 15qtel_c321bt7 sequence	4E-30
5289	L25128	Lycopersicon esculentum auxin-induced proteinase inhibitor (ARPI) gene, complete cds	0.51
5290	XM_049605	Homo sapiens KIAA1467 protein (KIAA1467), mRNA	2E-46
5291	AE002114	Ureaplasma urealyticum section 15 of 59 of the complete genome	0.054
5292	AF208678	Aedes aegypti clone p502, Pony-Aa-B6 MITE repeat region	3.9
5293	AK024656	Homo sapiens cDNA: FLJ21003 fis, clone CAE03685	5E-55
5294	NC_002355	Bombyx mori mitochondrion, complete genome	2.1
5295	AK023898	Homo sapiens cDNA FLJ13836 fis, clone THYRO1000734	0.008
5296	AE002342	Chlamydia muridarum, section 70 of 85 of the complete genome	1.9

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5297	XM_032347	Homo sapiens region containing TLS-associated serine-arginine protein 1; TLS-associated serine-arginine protein 2; TLS-associated serine-arginine protein 2; TLS-associated serine-arginine protein 2; TLS-associated serine-arginine protein 1; TLS-associa>	0
5298	Z63116	H.sapiens CpG island DNA genomic MseI fragment, clone 78e4, reverse read cpg78e4.rtl.a	0.24
5299	AE006833	Sulfolobus solfataricus section 192 of 272 of the complete genome	6.4
5300	XM_032811	Homo sapiens similar to ZINC FINGER PROTEIN 20 (ZINC FINGER PROTEIN KOX13) (DKFZP572P0920) (H. sapiens) (LOC90591), mRNA	0.21
5301	AF202552	Homo sapiens DNA methyltransferase (DNMT1) gene, exons 2, 3, and 4	0.23
5302	U92963	Pygathrix roxellana NADH dehydrogenase subunit 3 (ND3) gene, partial cds, tRNA-Arg gene, complete sequence, NADH dehydrogenase subunit 4L (ND4L) and NADH dehydrogenase subunit 4 (ND4) genes, complete cds, and tRNA-His, tRNA-Ser and tRNA-Leu genes, comp>	0.17
5303	Z99833	Euglena deses chloroplast psbC gene: complete group III twintron, complete internal mat1 gene, partial 5' and 3' psbC exons	4.7
5304	AB047962	Macaca fascicularis brain cDNA, clone:QnpA-13041	e-125
5305	AF159913	Euplotes crassus transposon Tec1 clone Tec1-2 orf 2 and orf 3 pseudogenes, complete sequence	0.5
5306	Y15435	Kluyveromyces lactis PDC1 gene, promoter region	0.087
5307	U67506	Methanococcus janniaschii section 48 of 150 of the complete genome	1.4
5308	U73943	Bacillus subtilis phosphofructokinase I (pfkI) gene, partial cds; and pyruvate kinase I gene, complete cds	2.2
5309	U72027	Bos taurus photoreceptor disk rim specific protein rom-1 (ROM1) mRNA, partial cds	0.06
5310	X16509	Rice alpha-amylase gene	2.1
5312	AB049900	Macaca fascicularis brain cDNA, clone:QnpA-19713	0.01
5313	Z24756	S.pombe rhp51 and rpa1 genes, complete CDS's	0.003
5314	XM_002989	Homo sapiens similar to hypothetical protein FLJ10546 (H. sapiens) (LOC93548), mRNA	5E-62
5316	AL358272	S.pombe chromosome I cosmid c458	0.61
5317	XM_044123	Homo sapiens cadherin 20, type 2 (CDH20), mRNA	4E-48
5318	AF038866	Bacteroides fragilis transposon Tn5520 transposase (bipH) and mobilization protein BmpH (bmpH) genes, complete cds	0.73
5319	AF332577	Homo sapiens prosomal P27K protein (PSMA6) gene, partial cds	2E-51
5320	X68650	O.cuniculus mRNA for ryanodine receptor	0.55
5321	XM_038450	Homo sapiens hypothetical protein FLJ20694 (FLJ20694), mRNA	0

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5322	Z65960	H.sapiens CpG island DNA genomic MseI fragment, clone 69d2, reverse read cpg69d2.rt1b	1.7
5323	AF317661	Candida albicans 60S acidic ribosomal protein type P2-A (p2A) gene, complete cds	5.8
5324	AE001776	Thermotoga maritima section 88 of 136 of the complete genome	0.64
5325	NM_031987	Rattus norvegicus carnitine octanoyltransferase (COT), mRNA	0.62
5326	AB035500	Rana rugosa gene for FTZ-F1, exon 1	0.009
5327	U67490	Methanococcus jannaschii section 32 of 150 of the complete genome	0.2
5328	AB060000	Glycine max mRNA for hypothetical protein, complete cds, clone:SSC2	0.22
5329	U50840	Borrelia garinii 70 kbp plasmid D6 protein gene, complete cds	0.072
5330	U67535	Methanococcus jannaschii section 77 of 150 of the complete genome	2.1
5331	AK001125	Homo sapiens cDNA FLJ10263 fis, clone HEMBB1000991	3E-43
5333	AF029114	Ascogaster sp. 16S ribosomal RNA gene, mitochondrial gene for mitochondrial RNA, partial sequence	0.068
5334	AF320594	Homo sapiens PKD1P4 pseudogene, exons 2 through 15	6.3
5335	AY021494	Oryza sativa microsatellite MRG3819 containing (TA)X27, genomic sequence	0.024
5336	AF146651	Homo sapiens glyoxalase-I gene, complete cds	0.056
5337	AB054516	Globicephala melas DNA, SINE flanking sequence Mago22 locus	0.024
5338	AC001052	Homo sapiens (subclone 1_f6 from P1 H56) DNA sequence, complete sequence	0.003
5339	U00951	Human clone A9A2BR11 (CAC)n/(GTG)n repeat-containing mRNA	0.65
5340	AF298180	Caenorhabditis elegans tropomyosin isoform IV mRNA, complete cds	0.64
5341	XM_042336	Homo sapiens hypothetical gene supported by AK025398 (LOC92036), mRNA	2.1
5342	L44121	Homo sapiens (clone pHK2.1D) CMT1A gene, repeat unit	0.0003
5343	AE005556	Escherichia coli O157:H7 EDL933 genome, contig 3 of 3, section 175 of 290	0.23
5344	AB035185	Homo sapiens RHD gene, intron 9, complete sequence	0.63
5345	AC013455	Homo sapiens BAC clone CTD-2347O14 from 7p12-p14, complete sequence	0.23
5346	AJ234722	Hordeum vulgare genomic DNA fragment; clone MWG2031.rev	0.24
5347	X79699	H.sapiens ALU repeat, 230bp	0.0003
5348	XM_050246	Homo sapiens secretory protein SEC8; KIAA1699 protein (SEC8), mRNA	0
5349	AB063075	Macaca fascicularis brain cDNA clone:QtrA-11888, full insert sequence	2E-19
5350	Z56909	H.sapiens CpG island DNA genomic MseI fragment, clone 152h9, reverse read cpg152h9.rt1a	0.69
5351	L44121	Homo sapiens (clone pHK2.1D) CMT1A gene, repeat unit	0.069



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5352	AE002722	Drosophila melanogaster genomic scaffold 142000013385665, complete sequence	1.5
5353	AF201021	Stachyarrhena sp. Jansen-Jacobs 4707 ribosomal protein S16 (rps16) gene, partial intron sequence; chloroplast gene for chloroplast product	0.072
5354	Y17506	Euplotes octocarinatus tRNA-Cys gene	0.024
5356	XM_040513	Homo sapiens hypothetical protein FLJ14454 (FLJ14454), mRNA	0.7
5357	AF287736	Mus musculus DREAM/calsenilin/KChIP3 gene, complete cds and exons 3, 4 and 5, alternatively spliced	2
5358	AF230807	Danio rerio PITP-less RdgB-like protein (plrdgB) mRNA, complete cds	6.1
5359	U67563	Methanococcus jannaschii section 105 of 150 of the complete genome	0.24
5360	AE000935	Methanobacterium thermoautotrophicum from bases 1655364 to 1666496 (section 141 of 148) of the complete genome	0.21
5361	NM_031819	Rattus norvegicus FAT tumor suppressor (Drosophila) homolog (Fat), mRNA	5.2
5362	XM_005889	Homo sapiens kinesin-like 1 (KNSL1), mRNA	3.6
5363	AF339829	Homo sapiens clone IMAGE:609847, mRNA sequence	0.022
5364	NM_007715	Mus musculus circadian locomotor output cycles kaput (Clock), mRNA	e-116
5365	XM_016117	Homo sapiens hypothetical protein DKFZp586F1122 similar to axotrophin (DKFZP586F1122), mRNA	0
5366	XM_005554	Homo sapiens regulator of differentiation (in S. pombe) 1 (ROD1), mRNA	6.3
5368	X76311	H.sapiens endothelial nitric oxidase synthase gene, exons 15 and 16	0.7
5369	XM_001738	Homo sapiens proteoglycan 4, (megakaryocyte stimulating factor, articular superficial zone protein) (PRG4), mRNA	0.63
5370	AE000935	Methanobacterium thermoautotrophicum from bases 1655364 to 1666496 (section 141 of 148) of the complete genome	0.23
5371	Y18011	Phaedon cochleariae mRNA for chitinase	0.021
5372	Z99768	Flaveria trinervia gdcSP pseudogene	4.5
5373	AF342852	Fusobacterium ulcerans strain NCTC 12112 16S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, complete sequence; and 23S ribosomal RNA gene, partial sequence	0.18
5374	BC003397	Homo sapiens, hypothetical protein FLJ20505, clone MGC:4960 IMAGE:3448518, mRNA, complete cds	1E-69
5375	AF385088	Homo sapiens NOD2 (NOD2) gene, NOD2-2722G>C allele, exon 8 and partial cds	0.58
5376	NC_000863	Papio cynocephalus provirus, complete genome	0.22
5377	AF121217	Rattus norvegicus pro-alpha-2(I) collagen (coll1a2) mRNA, complete cds	5.5
5378	BC009075	Mus musculus, beta-1,3-N-acetylglucosaminyltransferase 1, clone MGC:6892 IMAGE:2654354, mRNA, complete cds	1.8

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5379	XM_001341	Homo sapiens DKFZP547E1010 protein (DKFZP547E1010), mRNA	3E-15
5380	XM_046408	Homo sapiens KIAA1041 protein (KIAA1041), mRNA	0.52
5381	AK020701	Mus musculus 6 days neonate skin cDNA, RIKEN full-length enriched library, clone:A030009B12, full insert sequence	0.000001
5383	U32711	Haemophilus influenzae Rd section 26 of 163 of the complete genome	0.021
5384	XM_046598	Homo sapiens DKFZP434K156 protein (DKFZP434K156), mRNA	0.58
5385	L43551	Buchnera aphidicola anthranilate synthase large subunit (trpE) gene and anthranilate synthase small subunit (trpG) gene, complete cds	0.65
5386	XM_012233	Homo sapiens MDS023 protein (MDS023), mRNA	0.6
5387	AF139358	Homo sapiens BUB1 protein gene, exon 17	0.008
5388	AK020916	Mus musculus adult retina cDNA, RIKEN full-length enriched library, clone:A930031L14, full insert sequence	1.5
5389	AL390170	Homo sapiens mRNA; cDNA DKFZp547E184 (from clone DKFZp547E184)	1.8
5390	AK021659	Homo sapiens cDNA FLJ11597 fis, clone HEMBA1003856	0.21
5391	AK024200	Homo sapiens cDNA FLJ14138 fis, clone MAMMA1002765	0.00003
5392	AJ011727	Homo sapiens partial TOP2 beta gene, sequence G	0.00003
5393	AF018079	Homo sapiens leukemia inhibitory factor receptor (LIFG) gene, alternative promoter which is functional in non-placental tissues	6.2
5394	AB063085	Macaca fascicularis brain cDNA clone:QtrA-14876, full insert sequence	0.026
5395	AF154673	Homo sapiens olfactory receptor HPFH1OR (HPFH1OR) gene, complete cds	0.23
5396	AE007505	Streptococcus pneumoniae section 188 of 194 of the complete genome	6.6
5397	Z75199	S.cerevisiae chromosome XV reading frame ORF YOR291w	0.081
5398	AB042120	Bombyx mori Pao-like retrotransposon Kamikaze DNA, similar to polyprotein coding region	0.24
5399	AF379854	Cloning vector pVLH/hsp, complete sequence	0.0003
5400	XM_009648	Homo sapiens HSPC072 protein (HSPC072), mRNA	0.022
5401	AB056333	Macaca fascicularis brain cDNA, clone:QfIA-13486	9E-14
5402	AK021824	Homo sapiens cDNA FLJ11762 fis, clone HEMBA1005670	3E-46
5403	AL513010	Human DNA sequence from clone RP11-30M17 on chromosome 6, complete sequence [Homo sapiens]	0.026
5404	AK023753	Homo sapiens cDNA FLJ13691 fis, clone PLACE2000100	0.077
5406	AK014452	Mus musculus 18 days pregnant adult female placenta and extra embryonic tissue cDNA, RIKEN full-length enriched library, clone:3830422K02, full insert sequence	0.17
5407	XM_003220	Homo sapiens polybromo 1 (PB1), mRNA	1E-35
5408	Z78918	H.sapiens flow-sorted chromosome 6 HindIII fragment, SC6pA19C6	1.5

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5409	L13289	Mycoplasma pirum purine phosphorylase gene, 3' end, deoxyriboaldolase, thymidine phosphorylase, cytidine deaminase, phosphomannomutase genes, complete cds, and triose phosphate isomerase gene, 5' end	0.06
5410	AC024203	Caenorhabditis elegans cosmid Y72A2A, complete sequence	6.3
5411	AF373586	Homo sapiens translocation breakpoint MLLT1/MLL fusion gene, partial sequence	0.54
5412	Z46774	A. pleuropneumoniae tfbA gene for transferrin-binding protein (1949 bp)	0.025
5413	AF319044	Methanosarcina acetivorans strain C2A MtaF (mtaF) and MtaG (mtaG) genes, complete cds	0.44
5414	AE001933	Deinococcus radiodurans R1 section 70 of 229 of the complete chromosome 1	6.3
5415	M22734	Human platelet-derived growth factor A type receptor mRNA, complete cds	0.59
5416	AF264650	Asterella tenella trnL gene, intron sequence; chloroplast gene for chloroplast product	6.4
5417	AF378571	Sambucus nigra clone VBL85 thaumatin-like protein (TLP1) mRNA, complete cds	1.6
5418	U53183	Rattus norvegicus 250 kDa estrous-specific protein mRNA, partial cds	0.7
5419	AK026673	Homo sapiens cDNA: FLJ23020 fis, clone LNG00943	0.24
5420	XM_041367	Homo sapiens NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 4 (15kD, B15) (NDUFB4), mRNA	2E-10
5421	AY039939	Arabidopsis thaliana unknown protein (F11F12.23) mRNA, complete cds	5.5
5422	AF250135	Mus musculus splicing factor Sc35 (Pr264) mRNA, partial cds, alternatively spliced	2.1
5423	M32328	C.pipiens esterase B1 gene, complete cds	0.003
5424	U95369	Bos taurus inward rectifier potassium channel BIK mRNA, complete cds	0.009
5425	AE002157	Ureaplasma urealyticum section 58 of 59 of the complete genome	5.7
5426	AF270633	Homo sapiens clone 5qtel_c25t3 sequence	9E-56
5427	Z28252	S.cerevisiae chromosome XI reading frame ORF YKR027w	0.18
5428	AE002601	Drosophila melanogaster genomic scaffold 142000013385253, complete sequence	0.2
5429	AJ403990	Hyla arborea microsatellite DNA, clone WHA1-61	3.8
5430	NM_019253	Rattus norvegicus protein tyrosine phosphatase, non-receptor type 5 (Ptpn5), mRNA	0.73
5431	AE006543	Streptococcus pyogenes M1 GAS strain SF370, section 72 of 167 of the complete genome	0.61
5432	AF146363	Homo sapiens islet cell autoantigen ICA69 (ICA1) gene, exon 1 and partial cds	0.073
5433	M96943	Human profilaggrin gene exons 1-3, 5' end	0.066
5434	AK025246	Homo sapiens cDNA: FLJ21593 fis, clone COL07050	0.18

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5435	XM_027835	Homo sapiens general transcription factor IIIC, polypeptide 4 (90kD) (GTF3C4), mRNA	5.9
5437	AJ223441	Branchiostoma floridae Pax6 gene (AmphiPax6), clone J2	0.24
5438	AB048345	Equus caballus DNA, chromosome Xp21, microsatellite TKY39	0.73
5439	AB049844	Macaca fascicularis brain cDNA, clone:QnpA-18434	2.2
5440	XM_036740	Homo sapiens similar to nuclear pore membrane glycoprotein 210 (M. musculus) (LOC91181), mRNA	0.19
5441	AK019537	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4921505C17, full insert sequence	0.081
5442	AE003964	Xylella fastidiosa 9a5c, section 110 of 229 of the complete genome	6
5443	X95276	P.falciparum complete gene map of plastid-like DNA (IR-B)	0.008
5444	AF310264	Ovis aries leptin mRNA, partial 3' UTR	2.2
5445	XM_048688	Homo sapiens hypothetical protein FLJ10420 (FLJ10420), mRNA	2.2
5446	AC007133	Arabidopsis thaliana chromosome II section 209 of 255 of the complete sequence. Sequence from clones T6A23, F13I13	2
5447	AJ011727	Homo sapiens partial TOP2 beta gene, sequence G	0.00003
5448	AF214665	Homo sapiens cAMP responsive element modulator (CREM) gene, exon H	0.52
5449	AF269319	Staphylococcus epidermidis strain SR1 clone step.1002a02 genomic sequence	1.9
5450	AE001393	Plasmodium falciparum chromosome 2, section 30 of 73 of the complete sequence	0.72
5451	XM_002437	Homo sapiens cAMP-regulated guanine nucleotide exchange factor II (CAMP-GEFII), mRNA	7E-32
5452	AF298224	Homo sapiens RPCI-II 289E13 CD21 gene, partial cds	0.007
5453	AF254641	Homo sapiens oxytocin/vasopressin intergenic region	0.01
5454	XM_010303	Homo sapiens phosphate cytidyltransferase 1, choline, beta isoform (PCYT1B), mRNA	2
5455	AK014447	Mus musculus 18 days pregnant adult female placenta and extra embryonic tissue cDNA, RIKEN full-length enriched library, clone:3830421F13, full insert sequence	0.22
5456	M21084	P.hybrida 5-enolpyruvylshikimate 3-phosphate synthase mRNA, complete cds	0.24
5457	XM_006648	Homo sapiens Microfibril-associated glycoprotein-2 (MAGP2), mRNA	1.4
5458	AF175434	Gallus gallus T cell receptor delta chain (TCRD) pseudogene, partial sequence	0.76
5459	AE000775	Aquifex aeolicus section 107 of 109 of the complete genome	0.0008
5460	XM_031261	Homo sapiens similar to KIAA0377 gene product (H. sapiens) (LOC90371), mRNA	1.6
5461	BC008389	Homo sapiens, Similar to hypothetical protein LOC57821, clone IMAGE:4076369, mRNA	0.24



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5488	AE001372	Plasmodium falciparum chromosome 2, section 9 of 73 of the complete sequence	
5489	Z46943	H.sapiens lipoprotein lipase (LPL) gene (intron 9)	1.9
5490	U68246	Dictyostelium discoideum WacA (wacA) gene, complete cds	0.58
5491	AK009952	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2310057C01, full insert sequence	0.003
5492	AF190794	Arabidopsis thaliana subtilisin-type serine endopeptidase XSP1 mRNA, complete cds	0.08
5493	AF336796	Plasmodium falciparum dynamin-like protein (dyn) mRNA, complete cds	1.9
5494	AB035844	Coturnix coturnix japonica DNA, microsatellite GUJ0034 sequence	9.6
5495	AF127240	Nicotiana tabacum cultivar Xanthi arginine decarboxylase 1 (ADC1) gene, complete cds	0.026
5496	AY019789	Oryza sativa microsatellite MRG2114 containing (AT)X78, genomic sequence	0.42
5497	AF106953	Homo sapiens SOS1 (SOS1) gene, partial cds	0.003
5498	XM_007172	Homo sapiens mab-21 (C. elegans)-like 1 (MAB21L1), mRNA	0.43
5499	NM_006915	Homo sapiens retinitis pigmentosa 2 (X-linked recessive) (RP2), mRNA	0.014
5500	X95961	A.thaliana CER3-like gene	0.003
5501	XM_041428	Homo sapiens inositol 1,4,5-triphosphate receptor, type 1 (ITPR1), mRNA	0.071
5502	S50200	dopamine beta-hydroxylase [mice, Genomic/mRNA, 2274 nt]	0.18
5503	AE001178	Borrelia burgdorferi (section 64 of 70) of the complete genome	2.1
5504	Z74797	S.cerevisiae chromosome XV reading frame ORF YOL055c	0.026
5505	X15979	Plasmodium falciparum alpha-tubulin I gene	2.1
5506	AF221538	Cryptosporidium felis heat shock protein 70 (HSP70) gene, partial cds	0.0008
5507	AF083226	Caenorhabditis elegans nuclear receptor NHR-8 (nhr-8) mRNA, complete cds	1.8
5508	AF262729	Ornithorhynchus anatinus olfactory receptor pla32 gene, partial cds	0.69
5509	AF263057	Cobitis arachthosensis ATP synthase 8 (ATP 8) and ATP synthase 6 (ATP 6) genes, complete cds; mitochondrial genes for mitochondrial products	6E-10
5510	AF061244	Agrocye aegerita B type DNA polymerase (Mtpol) gene, complete cds; tRNA-Asn gene, complete sequence; and unknown genes, mitochondrial genes for mitochondrial products	2
5511	X64612	H.sapiens dystrophin-gene (introns 13/42)	0.003
5512	AF269472	Staphylococcus epidermidis strain SR1 clone step.1005a12 genomic sequence	0.69
5514	AF297021	Homo sapiens GE36 gene, exon 8	0.21
5515	AL391744	S.pombe chromosome I cosmid c17D4	0.12
5516	XM_034682	Homo sapiens similar to general transcription factor II, i (H. sapiens) (LOC90875), mRNA	0.42
			7E-22

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5517	AF361817	Arabidopsis thaliana At1g06730/F4H5_22 gene, complete cds	0.69
5518	Z48243	A.thaliana PARP mRNA for PARP protein	0.69
5519	AL390169	Homo sapiens mRNA; cDNA DKFZp547D064 (from clone DKFZp547D064)	e-180
5520	NM_032141	Homo sapiens hypothetical protein DKFZp434K1421 (DKFZp434K1421), mRNA	e-169
5521	XM_037214	Homo sapiens laminin, alpha 5 (LAMA5), mRNA	0.62
5522	AL110675	Botrytis cinerea strain T4 cDNA library under conditions of nitrogen deprivation	0.008
5523	AF124216	Dasyurus viverrinus/maculatus mixed DNA library microsatellite Q4.4.10 sequence	1.9
5524	AL583762	Human chromosome 14 DNA sequence Partial sequence from BAC R-1109N18_PCR1 of library RPCI-11 from chromosome 14 of Homo sapiens (Human), complete sequence	6E-42
5525	AC024758	Caenorhabditis elegans cosmid Y37E11AM, complete sequence	1.4
5526	AF260528	Homo sapiens MER receptor tyrosine kinase (MERTK) gene, exons 17 and 18	3E-35
5527	AF246997	Plasmodium falciparum malaria exported protein-1 (EXP-1) gene, complete cds	0.019
5528	XM_011810	Homo sapiens sigma receptor (SR31747 binding protein 1) (SR-BP1), mRNA	3.9
5529	XM_011100	Homo sapiens complement component 7 (C7), mRNA	5.9
5530	X64315	S.scrofa mRNA for Na/D-glucose cotransporter regulatory-subunit	0.0007
5531	XM_048945	Homo sapiens bromodomain adjacent to zinc finger domain, 2A (BAZ2A), mRNA	3.4
5532	XM_046506	Homo sapiens DKFZP566I1024 protein (DKFZP566I1024), mRNA	1E-10
5533	XM_002977	Homo sapiens ring finger protein 13 (RNF13), mRNA	2.8
5534	AJ300359	Homo sapiens partial RYR2 gene for ryanodine receptor 2, exon 20	1E-36
5535	BC008590	Homo sapiens, hypothetical protein FLJ21313, clone MGC:16820 IMAGE:4148772, mRNA, complete cds	e-154
5536	XM_050246	Homo sapiens secretory protein SEC8; KIAA1699 protein (SEC8), mRNA	0
5537	AL442094	Homo sapiens mRNA; cDNA DKFZp547E024 (from clone DKFZp547E024)	2
5538	AF225975	Tribolium castaneum Tc-tailless gene, upstream regulatory region and partial cds; tRNA-Tyr gene, complete sequence; and unknown gene	0.24
5539	AJ304934	Sidalcea malviflora x Sidalcea oregana 5.8S rRNA gene, internal transcribed spacer 1 (ITS1) and internal transcribed spacer 2 (ITS2)	2.1
5540	AE001528	Helicobacter pylori, strain J99 section 89 of 132 of the complete genome	0.009





Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5571	D86577	Human herpesvirus type 7 U38 gene, U39 gene for glycoprotein B and U40 gene for DNA polymerase, complete and partial cds	0.5
5572	AE006578	Streptococcus pyogenes M1 GAS strain SF370, section 107 of 167 of the complete genome	0.008
5573	U31170	Streptococcus mutans ATPase operon, complete sequence	0.041
5575	AF301004	Schistosoma mansoni thioredoxin peroxidase 3 (TPx3) gene, complete cds	0.23
5576	AF269295	Staphylococcus epidermidis strain SR1 clone step.1000d09 genomic sequence	2
5577	AF114934	Saccharomyces sp. S6U ATP synthase subunit 8 (ATP8) gene, mitochondrial gene encoding mitochondrial protein, complete cds	0.008
5578	AF261143	Homo sapiens chromosome 9 lung cancer-associated mRNA	2
5579	X95276	P.falciparum complete gene map of plastid-like DNA (IR-B)	0.00003
5580	NM_030844	Rattus norvegicus islet cell autoantigen 1, 69 kDa (Ica1), mRNA	0.63
5581	XM_001738	Homo sapiens proteoglycan 4, (megakaryocyte stimulating factor, articular superficial zone protein) (PRG4), mRNA	0.21
5582	AB060860	Macaca fascicularis brain cDNA clone:QtrA-11624, full insert sequence	5.1
5583	NC_001566	Apis mellifera ligustica mitochondrion, complete genome	0.15
5584	AF239566	Polycynis ornata tRNA-Leu (trnL) gene, partial sequence; and trnL-F intergenic spacer region, complete sequence; chloroplast gene for chloroplast product	0.008
5585	X92893	C.roseus GGPP synthase gene	1.6
5586	XM_002601	Homo sapiens desmin (DES), mRNA	5.7
5587	NM_012745	Rattus norvegicus CD94 antigen (located within the rat natural killer gene complex) (Klrd1), mRNA	1.4
5588	AK022035	Homo sapiens cDNA FLJ11973 fis, clone HEMBB1001221	0.023
5589	AB020595	Plasmodium falciparum 1-CysPxn mRNA for 1-cys peroxidoxin, complete cds	1.4
5590	AL121778	Human DNA sequence from clone RP5-839B11 on chromosome 20. Contains the first coding exon of the gene for a novel protein with a Kunitz/Bovine pancreatic trypsin inhibitor domain and WAP-type (Whey Acidic Protein) 'four-disulfide core' domains and an e>	0.07
5591	AF222338	Rattus norvegicus voltage gated N-type calcium channel alpha1B gene, partial cds, alternatively spliced	5.8
5592	AF247193	Mus musculus endobrevin (Vamp8) gene, exon 1	0.18
5593	AC026061	Homo sapiens BAC clone RP11-223K9 from Y, complete sequence	e-163
5594	XM_030132	Homo sapiens ubiquitin specific protease 9, X chromosome (Drosophila fat facets related) (USP9X), mRNA	0.21
5595	AK015052	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930402K13, full insert sequence	0.22
5596	AK023333	Homo sapiens cDNA FLJ13271 fis, clone OVARC1001000	0.002
5597	AB058702	Homo sapiens mRNA for KIAA1799 protein, partial cds	0.007
5598	Z36800	H.sapiens (xs149) mRNA, 250bp	0.0003





Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5653	AK019524	Mus musculus 0 day neonate head cDNA, RIKEN full-length enriched library, clone:4833439O17, full insert sequence	1.7
5654	XM_045122	Homo sapiens KIAA1451 protein (KIAA1451), mRNA	5E-38
5656	AK009345	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2310014M14, full insert sequence	3E-35
5657	AF192496	Homo sapiens PDX-1 gene, 5' flanking region	1.5
5658	XM_052620	Homo sapiens KIAA0935 protein (KIAA0935), mRNA	0.0003
5659	XM_049514	Homo sapiens hypothetical protein FLJ13153 (FLJ13153), mRNA	5.6
5660	AJ400965	Proteus mirabilis ORF1 DNA, katA gene and menE gene, strain PR	6.5
5661	NM_031809	Rattus norvegicus cyclic nucleotide-gated channel beta subunit 1 (Cngb1), mRNA	0.63
5662	AF230741	Notothenia coriiceps alphaNCPI (alphaNCPI), betaNCPI (betaNCPI), alphaNCP2 (alphaNCP2), and betaNCP2 (betaNCP2) genes, complete cds	1.6
5663	AC079878	Homo sapiens BAC clone RP11-343P21 from 7, complete sequence	0.086
5664	XM_029904	Homo sapiens hypothetical gene supported by AK023961 (LOC90205), mRNA	1.9
5665	AY042792	Arabidopsis thaliana translin-like protein (At2g37020; T1J8.20) mRNA, complete cds	4.6
5666	AB018347	Homo sapiens mRNA for KIAA0804 protein, partial cds	0.068
5667	AY018017	Oryza sativa microsatellite MRG0342 containing (AG)X22, closest to marker G1185, genomic sequence	0.059
5668	AE005310	Escherichia coli O157:H7 EDL933 genome, contig 1 of 3, section 134 of 155	0.49
5669	XM_034498	Homo sapiens farnesyl diphosphate synthase (farnesyl pyrophosphate synthetase, dimethylallyltranstransferase, geranyltranstransferase) (FDPS), mRNA	5.3
5670	AK027123	Homo sapiens cDNA: FLJ23470 fis, clone HSI11950	0.17
5671	NM_013696	Mus musculus thyrotropin releasing hormone receptor (Trhr), mRNA	0.23
5673	L23758	Bos taurus lysozyme 7A mRNA	0.8
5674	AY034963	Arabidopsis thaliana putative polypeptide chain release factor (F13K23.17) mRNA, complete cds	1.4
5675	XM_028009	Homo sapiens KIAA1563 protein (KIAA1563), mRNA	2E-71
5676	XM_046473	Homo sapiens Rho GDP dissociation inhibitor (GDI) alpha (ARHGDI), mRNA	0.59
5677	NM_000148	Homo sapiens fucosyltransferase 1 (galactoside 2-alpha-L-fucosyltransferase, Bombay phenotype included) (FUT1), mRNA	0.0000001
5678	AF203477	Drosophila melanogaster Sticky ch1 (stich1) mRNA, partial cds	2.1
5679	AF269242	Plasmodium falciparum transmission-blocking target antigen Pfs230 (s230) gene, complete cds	0.23



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5712	L01574	Homo sapiens P-selectin CD62 (GRMP) gene, 5' end and promoter region	0.00001
5713	AY023618	Oryza sativa microsatellite MRG5943 containing (TTA)X55, closest to marker RG908, genomic sequence	0.00009
5714	AE004377	Vibrio cholerae chromosome II, section 34 of 93 of the complete chromosome	0.58
5715	AL115472	Botrytis cinerea strain T4 cDNA library under conditions of nitrogen deprivation	0.2
5716	XM_042855	Homo sapiens hypothetical gene supported by BC006369; BC008013 (LOC92105), mRNA	8E-23
5717	XM_015203	Homo sapiens region containing deleted in azoospermia 2; deleted in azoospermia (LOC90902), mRNA	1E-19
5718	AY019789	Oryza sativa microsatellite MRG2114 containing (AT)X78, genomic sequence	0.0000003
5719	AB010300	Garlic virus A genomic RNA, complete sequence	0.001
5720	AF171785	Drosophila melanogaster clone 69 mRNA sequence	0.73
5721	AF325188	Phaseolus coccineus suspensor-specific protein (C541-like) gene, complete cds	0.24
5722	XM_048692	Homo sapiens similar to hypothetical protein (H. sapiens) (LOC92998), mRNA	1E-16
5723	AE006878	Sulfolobus solfataricus section 237 of 272 of the complete genome	2.2
5724	AF038919	Dictyostelium discoideum PslA (pslA) gene, complete cds	0.026
5725	AF368257	Bacillus thuringiensis plasmid encoded Cry1Ba (cry1Ba) gene, complete cds	2.1
5726	AF148319	Homo sapiens imprinting center, AS-SRO region	1.8
5727	D49412	Human gene for interleukin 3 receptor alpha subunit, exon 11	0.23
5728	AJ012488	Mus musculus gene encoding serotonin receptor 5-HT2B, exons 1-3	0.25
5729	AL445224	Human DNA sequence from clone RP11-259P20 on chromosome 6, complete sequence [Homo sapiens]	2
5730	AK025021	Homo sapiens cDNA: FLJ21368 fis, clone COL03056, highly similar to AF158555 Homo sapiens glutaminase C mRNA	e-171
5731	D38252	Raphanus sativus dark-inducible and senescence-associated gene, exon 1 to 5	0.62
5732	XM_051880	Homo sapiens hypothetical gene supported by AK026792 (LOC93533), mRNA	5.6
5733	K00769	yeast (s.pombe) 5s rRNA gene and flanks, clone pspr11	0.023
5734	AL031254	Caenorhabditis elegans cosmid 4R79, complete sequence	0.082
5735	AK001945	Homo sapiens cDNA FLJ11083 fis, clone PLACE1005232	2.1
5736	XM_012452	Homo sapiens ryanodine receptor 3 (RYR3), mRNA	0.008
5737	XM_046442	Homo sapiens hypothetical protein FLJ23045 (FLJ23045), mRNA	6E-33
5738	AF072513	Illex argentinus microsatellite Ia203	0.69
5739	XM_050747	Homo sapiens TC10-like Rho GTPase (TCL), mRNA	5E-20
5740	AC079757	Homo sapiens clone RP11-109N2, complete sequence	0.62



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5769	AK018211	Mus musculus adult male medulla oblongata cDNA, RIKEN full-length enriched library, clone:6330510M09, full insert sequence	6.4
5770	XM_006622	Homo sapiens PTPRF interacting protein, binding protein 1 (liprin beta 1) (PPFIBP1), mRNA	0.079
5771	U72335	Human platelet activating factor acetylhydrolase, brain isoform, 45 kDa subunit (LIS1) gene, exons 3 and 4	0.2
5772	XM_048810	Homo sapiens hypothetical protein FLJ22116 (FLJ22116), mRNA	0
5773	AF218257	Arabidopsis thaliana 12-oxo-phytodienoate reductase gene, complete cds	0.23
5774	AK014450	Mus musculus 18 days pregnant adult female placenta and extra embryonic tissue cDNA, RIKEN full-length enriched library, clone:3830422A13, full insert sequence	0.083
5775	AK005342	Mus musculus adult male cerebellum cDNA, RIKEN full-length enriched library, clone:1500032H18, full insert sequence	1.6
5776	M99412	Human interleukin-8 receptor (IL8RB) gene, complete cds	0.063
5777	NC_001619	Canine oral papillomavirus, complete genome	1.8
5778	NM_030238	Mus musculus dynein, cytoplasmic, heavy chain 1 (Dnchc1), mRNA	0
5779	AL031254	Caenorhabditis elegans cosmid 4R79, complete sequence	0.084
5781	Z74797	S.cerevisiae chromosome XV reading frame ORF YOL055c	2.2
5782	XM_040841	Homo sapiens cullin 5 (CUL5), mRNA	0.23
5783	U20807	Bos taurus protein tyrosine phosphatase BA14 mRNA, complete cds	0.22
5784	AE006648	Sulfolobus solfataricus section 7 of 272 of the complete genome	0.007
5785	AY018666	Oryza sativa microsatellite MRG0991 containing (AT)X19, closest to marker R1713, genomic sequence	0.008
5786	AK026299	Homo sapiens cDNA: FLJ22646 fis, clone HSI07178	0.23
5787	X91787	L.luteus mRNA for tRNA-glutamine synthetase	0.17
5788	XM_017281	Homo sapiens endosulfine alpha (ENSA), mRNA	1.9
5789	XM_017281	Homo sapiens endosulfine alpha (ENSA), mRNA	1.9
5790	AF229090	Homo sapiens myosin VI (MYO6) gene, exon 11	0.69
5791	AK001945	Homo sapiens cDNA FLJ11083 fis, clone PLACE1005232	2.1
5792	AF189157	Foot-and-mouth disease virus (strain O1) polyprotein gene, complete cds	6.5
5793	AK013313	Mus musculus 10, 11 days embryo cDNA, RIKEN full-length enriched library, clone:2810449G22, full insert sequence	6.1
5794	AJ005205	Homo sapiens 5HT3 gene for serotonin 3 receptor	0.69
5795	NM_019083	Homo sapiens hypothetical protein (FLJ10287), mRNA	6E-63
5796	AK021451	Homo sapiens cDNA FLJ11389 fis, clone HEMBA1000557	2E-54
5797	Z34885	T.pyrififormis (CGL) gene for TCP1 gamma protein	0.6
5798	AF288408	Rattus norvegicus transient receptor potential Trp4beta mRNA, complete cds	0.081
5799	XM_015806	Homo sapiens hypothetical protein FLJ22621 (FLJ22621), mRNA	0



Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5800	AF332918	Plasmodium falciparum Indochina III/CDC erythrocyte binding protein BAEBL (baebl) gene, complete cds	3.9
5801	XM_052063	Homo sapiens hypothetical protein DKFZp547A023 (DKFZp547A023), mRNA	0
5802	AB013796	Ceratopteris richardii mRNA for CRHB6, complete cds	0.024
5803	AF288408	Rattus norvegicus transient receptor potential Trp4beta mRNA, complete cds	0.082
5804	AF174213	Terebra subulata 16S ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	2.8
5805	AF308286	Homo sapiens serologically defined breast cancer antigen NY-BR-18 mRNA, partial cds	0.59
5806	AF030199	Mus musculus type 1 sigma receptor gene, complete cds	0.49
5807	M99412	Human interleukin-8 receptor (IL8RB) gene, complete cds	0.51
5808	Z34885	T.pyrifomis (CGL) gene for TCP1gamma protein	0.58
5809	AF305539	Mus musculus B lymphocyte induced maturation protein 1 (Prdm1) gene, exon 8 and complete cds	1E-67
5810	AF288408	Rattus norvegicus transient receptor potential Trp4beta mRNA, complete cds	0.087
5811	AE001181	Borrelia burgdorferi (section 67 of 70) of the complete genome	0.001
5812	AY027894	Homo sapiens voltage-dependent calcium channel beta 2 subunit (CACNB2) gene, exon 2	0.00008
5813	XM_029481	Homo sapiens similar to KIAA0732 protein (H. sapiens) (LOC90154), mRNA	0.68
5814	AK021659	Homo sapiens cDNA FLJ11597 fis, clone HEMBA1003856	2.1
5815	U39721	Mycoplasma genitalium section 43 of 51 of the complete genome	0.19
5816	Z73267	S.cerevisiae chromosome XII reading frame ORF YLR095c	0.009
5817	XM_029453	Homo sapiens oculocerebrorenal syndrome of Lowe (OCRL), mRNA	0.26
5818	AF027728	Xenopus laevis kinesin-related protein (XCENP-E) mRNA, complete cds	0.052
5819	AE001407	Plasmodium falciparum chromosome 2, section 44 of 73 of the complete sequence	0.18
5820	AL157491	Homo sapiens mRNA; cDNA DKFZp434K1111 (from clone DKFZp434K1111)	9E-50
5821	XM_002437	Homo sapiens cAMP-regulated guanine nucleotide exchange factor II (CAMP-GEFII), mRNA	4E-37
5822	XM_050146	Homo sapiens KIAA0472 protein (KIAA0472), mRNA	8E-20
5823	AY032600	Carica papaya xyloglucan endo-transglycosylase mRNA, complete cds	0.19
5824	Z36061	S.cerevisiae chromosome II reading frame ORF YBR192w	3
5825	AK021459	Homo sapiens cDNA FLJ11397 fis, clone HEMBA1000622	0.046
5826	AF261017	Nicotiana tabacum putative chloroplast RNA helicase VDL (VDL) gene, exons 1 through 5 and complete CDS, alternatively spliced; nuclear gene for chloroplast products	2.1
5827	AJ277162	Beta vulgaris mRNA for putative Cdc2-related protein kinase CRK2	0.009

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5828	AL390874	Human DNA sequence from clone RP11-238K16 on chromosome 9, complete sequence [Homo sapiens]	0.026
5829	S84872	Solanum tuberosum type A phytochrome (c-phyA) mRNA, complete cds	0.43
5830	AF271370	Homo sapiens interphotoreceptor matrix proteoglycan 200 (IMPG2) gene, exon 10	0.078
5831	XM_051183	Homo sapiens embryonic ectoderm development (EED), mRNA	0.00002
5832	BC006523	Homo sapiens, serum/glucocorticoid regulated kinase 2, clone IMAGE:2988475, mRNA	3E-34
5833	AF100658	Caenorhabditis elegans cosmid H08G01	0.44
5834	XM_003725	Homo sapiens putative ribonuclease III (RNASE3L), mRNA	0.008
5835	M58029	Amoeba proteus symbiotic bacterium 29kDa protein (s29x) gene, complete cds	0.71
5836	U46541	Staphylococcus aureus sarA gene, complete cds	0.003
5837	AJ225333	Acidianus ambivalens plasmid pDL10	0.17
5838	X15702	Fruitfly LA9 mRNA for DNA binding protein	0.077
5839	AL031590	Human DNA sequence from clone CTA-232D4 on chromosome 22q13.1 Contains a GSS, complete sequence [Homo sapiens]	0.16
5840	X07946	Yeast plasmid DNA coding for RNA polymerase subunit	0.082
5841	AL590324	Human DNA sequence from clone RP11-479D11 on chromosome 10, complete sequence [Homo sapiens]	0.082
5842	XM_004947	Homo sapiens paraoxonase 2 (PON2), mRNA	1.6
5843	AF262582	Dolichorhinotermes sp. 'Manaus' 16S mitochondrial ribosomal RNA gene, partial sequence; mitochondrial gene for mitochondrial product	0.067
5844	L81839	Homo sapiens (subclone 2_h3 from P1 H43) DNA sequence, complete sequence	0.00006
5845	U67550	Methanococcus jannaschii section 92 of 150 of the complete genome	0.087
5846	XM_044987	Homo sapiens hypothetical gene supported by U00951 (LOC92415), mRNA	6.1
5847	AE001420	Plasmodium falciparum chromosome 2, section 57 of 73 of the complete sequence	0.71
5848	AF315823	Stylonychia mytilus DNA-dependent RNA polymerase II largest subunit RPB1 (RPB1) gene, partial cds	0.51
5849	AB066207	Physcomitrella patens chloroplast genes for ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit, tRNA-Arg and acetyl-CoA carboxylase beta subunit, complete cds	0.65
5850	AF286898	Plasmodium chabaudi adami carbamoyl phosphate synthetase II gene, partial cds	0.002
5851	AL583888	Human DNA sequence from clone RP11-132E18 on chromosome 10, complete sequence [Homo sapiens]	0.028
5852	AB011811	Chromatium vinosum genes for light-harvesting and reaction center proteins, partial and complete cds	6.4
5853	AF153448	Zea mays nitrate reductase (NR1) gene, complete cds	0.067

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5854	XM_012762	Homo sapiens hypothetical protein FLJ10891 (FLJ10891), mRNA	0
5855	AF248814	Maoricicada cassiope isolate TB-MI-004 tRNA-Asp gene, complete sequence; ATPase subunit 8 gene, complete cds; and ATPase subunit 6 gene, partial cds; mitochondrial genes for mitochondrial products	0.029
5856	D01021	Anthocidaris crassispina mRNA for dynein beta-heavy chain, complete cds	2E-22
5857	AE001401	Plasmodium falciparum chromosome 2, section 38 of 73 of the complete sequence	0.54
5858	BC007548	Homo sapiens, clone IMAGE:2959994, mRNA	1.9
5859	AB063065	Macaca fascicularis brain cDNA clone:QmoA-12555, full insert sequence	0.18
5860	NM_008538	Mus musculus myristoylated alanine rich protein kinase C substrate (Macs), mRNA	1.5
5861	XM_029266	Homo sapiens sarcoglycan, epsilon (SGCE), mRNA	0.66
5862	AE006685	Sulfolobus solfataricus section 44 of 272 of the complete genome	0.37
5863	BC008007	Homo sapiens, clone IMAGE:3510538, mRNA	6E-34
5864	AB024511	Nicotiana tabacum mRNA for TMV response-related gene product, complete cds	2.1
5865	U25027	Glycine max phosphatidylinositol-specific phospholipase C mRNA, complete cds	0.077
5866	U50715	Mus musculus alpha-galactosidase A gene, complete cds	0.024
5867	U64465	Stylophora pistillata L-type calcium channel alpha-1 subunit (STPCACHL) mRNA, complete cds	0.072
5868	XM_040043	Homo sapiens similar to hypothetical protein DKFZp566D1346 (H. sapiens) (LOC91690), mRNA	0.023
5869	U60135	Arabidopsis thaliana serine/threonine protein phosphatase 2A-3 catalytic subunit gene, complete cds	0.027
5870	AF275745	Lycopersicon esculentum plasma membrane H <sup>+</sup> -ATPase (LHA2) mRNA, complete cds	1.5
5871	Z29521	C. crispus Chloroplast gene encoding 16S rRNA, tRNA-Ile, tRNA-Ala, and 23S rRNA (partial)	0.003
5872	AJ132557	Oryctolagus cuniculus CYP19 gene, ovarian promoter region	0.24
5873	AF124524	Arabidopsis thaliana gamma-adaptin 1 gene, complete cds	0.24
5874	AK013131	Mus musculus 10, 11 days embryo cDNA, RIKEN full-length enriched library, clone:2810422B04, full insert sequence	0.72
5875	AB044413	Sus scrofa MMP-3 mRNA for matrix metalloproteinase-3, partial cds	0.23
5876	AF247039	Porcine adenovirus 3 171R (E1A), 202R (E1B-1), 474R (E1B-2), 288R (288R), 198R (pIX), 163R* (163R*), 162R (162R), 97R (97R) and 184R (184R) genes, complete cds; and IVa2 (IVa2) gene, partial cds	5.2
5877	AF060579	Gossypium barbadense clone pXP020 repetitive DNA sequence	0.055
5878	AE006499	Streptococcus pyogenes M1 GAS strain SF370, section 28 of 167 of the complete genome	2.1

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Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5906	Y17466	Fugu rubripes SIAT3C gene, last three exons	0.65
5907	AK022127	Homo sapiens cDNA FLJ12065 fis, clone HEMBB1002249	0.001
5908	X79100	C.vicina (B11) mRNA for arylphorin receptor	0.6
5909	AK023079	Homo sapiens cDNA FLJ13017 fis, clone NT2RP3000628	0.23
5910	AK014448	Mus musculus 18 days pregnant adult female placenta and extra embryonic tissue cDNA, RIKEN full-length enriched library, clone:3830421J05, full insert sequence	1.4
5911	AK020293	Mus musculus adult male cecum cDNA, RIKEN full-length enriched library, clone:9130404H11, full insert sequence	0.23
5912	AE006285	Lactococcus lactis subsp. lactis IL1403 section 47 of 218 of the complete genome	0.25
5913	U41292	Human prolargin (PRELP) gene, 5' flanking sequence and exon 1	0.001
5914	AL109707	Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 295344	0.00004
5915	NM_024154	Rattus norvegicus proton gated cation channel ASIC1 (Accn2), mRNA	6.2
5916	U79732	Plasmodium berghei extrachromosomal plastid PB-2, tRNA-Pro, tRNA-Glu, tRNA-Lys, tRNA-Asp, tRNA-Ser, tRNA-Tyr, tRNA-Met, tRNA-Leu, tRNA-Cys, and tRNA-His genes, complete sequence, rps4 gene, complete cds, tRNA-Thr gene, complete sequence, and large subu>	0.023
5917	AF098715	Coniglobus mercatorius 16S ribosomal RNA gene, mitochondrial gene encoding mitochondrial product, partial sequence	0.095
5918	AF095904	Toxoplasma gondii ycf24 protein (ycf24) gene, partial cds; DNA dependent RNA polymerase beta subunit (rpoB) gene, complete cds; and DNA dependent RNA polymerase beta' subunit (rpoC1) gene, plastid genes encoding plastid proteins, partial cds	0.026
5919	XM_027416	Homo sapiens mesothelin (MSLN), mRNA	0.7
5920	BC004772	Mus musculus, Similar to inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta, clone IMAGE:3256890, mRNA	1.6
5921	AK000935	Homo sapiens cDNA FLJ10073 fis, clone HEMBA1001731	0.18
5922	BC009942	Homo sapiens, clone MGC:12595 IMAGE:4303422, mRNA, complete cds	0.001
5923	J05008	Homo sapiens endothelin-1 (EDN1) gene, complete cds	0.5
5924	AE002174	Chlamydophila pneumoniae AR39, section 10 of 94 of the complete genome	0.69
5925	AJ223616	Caenorhabditis elegans mRNA for calcium ATPase	0.7
5926	AF310894	Dictyostelium discoideum prespore-specific protein (pspC) gene, partial cds; RacH (racH) gene, complete cds; and BOP (bopA) gene, partial cds	0.027
5927	AE003910	Xylella fastidiosa 9a5c, section 56 of 229 of the complete genome	0.73
5928	AF335424	Homo sapiens sperm protein Sp17-2 pseudogene, complete sequence	1.8

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5929	XM_016924	Homo sapiens hypothetical protein MGC4054 (MGC4054), mRNA	4.3
5930	U62057	Mycoplasma capricolum NADH oxidase (naox) gene, partial cds, and lipoate-protein ligase (lpla), pyruvate dehydrogenase EI alpha subunit (odpa), pyruvate dehydrogenase EI beta subunit (odpb), pyruvate dehydrogenase EII (odp2), dihydrolipoamide dehydroge>	0.72
5931	AF202552	Homo sapiens DNA methyltransferase (DNMT1) gene, exons 2, 3, and 4	2.2
5932	AF010604	Homo sapiens SMAD5 (Smad5) gene, exon 3	0.0001
5933	AC084157	Caenorhabditis elegans cosmid Y46E12BR, complete sequence	0.71
5934	XM_027907	Homo sapiens hypothetical protein DKFZp564D172 (DKFZP564D172), mRNA	0.18
5935	AF360191	Arabidopsis thaliana unknown protein (T9C5.150/AT3g49560) mRNA, complete cds	6.3
5938	AF282728	Culex pipiens Twin-Cp5 SINE retroposon, genomic sequence and v-SNARE-like gene, partial sequence	0.066
5939	M81702	Candida boidinii methanol oxidase (AOD1) gene, complete cds	0.008
5940	AF057740	Homo sapiens 17-beta-hydroxysteroid dehydrogenase IV (HSD17B4) gene, exon 24 and complete cds	0.21
5941	XM_031463	Homo sapiens exonuclease NEF-sp (LOC81691), mRNA	0.072
5942	AB022048	Mus musculus gene for prolyl oligopeptidase, exon 3, 4, 5, 6	2.1
5943	Z48165	R.violacea chloroplast genes for alpha and beta subunit of phycocyanin	2.1
5944	AF181251	Rattus norvegicus lung Kruppel-like factor (Lklf) gene, complete cds	5.9
5945	AP001057	Homo sapiens genomic DNA, chromosome 21, clone:D40G11, MX1-D21S171 region, complete sequence	0.00001
5946	AK016374	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930589L23, full insert sequence	5.9
5947	M27697	Pig urate oxidase mRNA, complete cds	2.1
5948	XM_032603	Homo sapiens similar to DESTRIN (ACTIN DEPOLYMERIZING FACTOR) (ADF) (H. sapiens) (LOC90563), mRNA	0.69
5949	U39688	Mycoplasma genitalium section 10 of 51 of the complete genome	0.077
5950	AF320250	Lactobacillus delbrueckii YmdA (ymdA) gene, partial cds; and putative undecaprenyl-phosphate N-acetyl-glucosaminyl transferase (rgpG), YvyE (yvyE), putative ComF1 protein (comF1), putative ComF3 protein (comF3), YvyD (yvyD), putative preprotein translo>	0.69
5951	Y09852	H.sapiens FGFR3 gene, partial	2E-10
5952	Z79103	H.sapiens flow-sorted chromosome 6 HindIII fragment, SC6pA22F11	0.00002
5953	AP000321	Homo sapiens genomic DNA, chromosome 21q22.1, D21S226-AML region, clone:Q82F5, complete sequence	0.00004
5954	AK025042	Homo sapiens cDNA: FLJ21389 fis, clone COL03455	2E-66

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5955	U14576	Dictyostelium discoideum filopodin (talA) gene, complete cds	0.21
5956	AE001405	Plasmodium falciparum chromosome 2, section 42 of 73 of the complete sequence	0.052
5957	M64861	D.discoideum TFIID mRNA, complete cds	0.002
5958	AJ245435	Plasmodium falciparum gc-alpha gene for guanylyl cyclase alpha	0.0001
5959	XM_031443	Homo sapiens phosphodiesterase 8A (PDE8A), mRNA	8E-13
5960	AC079875	Homo sapiens clone CTD-2333B13, complete sequence	0.00003
5961	AF275272	Schizophyllum commune unknown gene; mitochondrial gene for mitochondrial product	0.44
5962	Z60119	H.sapiens CpG island DNA genomic MseI fragment, clone 18e1, reverse read cpg18e1.rt1b	0.008
5963	AF100654	Caenorhabditis elegans cosmid C24E9	0.026
5964	AE001399	Plasmodium falciparum chromosome 2, section 36 of 73 of the complete sequence	0.001
5965	U89019	Hepatitis C virus polyprotein gene, complete cds	0.2
5966	XM_052512	Homo sapiens ARP3 (actin-related protein 3, yeast) homolog (ACTR3), mRNA	2E-32
5967	U17634	Human chromosome 21, Down syndrome critical region transcript, SP6 end of clone 3-3-f8	0.7
5968	AF197477	Homo sapiens TRBP pseudogene, partial sequence	0.22
5969	U78599	Streptococcus mutans putative D,D-carboxypeptidase and putative N-acetyl-muramidase genes, partial cds	2.1
5970	AP001414	Homo sapiens genomic DNA, chromosome 21q22.2, clone:D30, LB7T-ERG region, complete sequence	2.1
5971	AJ277067	Homo sapiens partial SSH3BP1/e3B1 gene for spectrin SH3 binding protein, exon 3-5	5.7
5972	X13294	Human mRNA for myb-related gene A-myb 5'-region	6E-74
5973	NC_001796	Human parainfluenza virus 3, complete genome	0.053
5974	AJ222787	Hordeum vulgare mRNA for alpha-keto acid dehydrogenase-like protein, clone RG136	0.073
5975	AF284034	Melanogrammus aeglefinus vitellogenin B (VtgB) mRNA, complete cds	2.1
5976	AF127565	Arabidopsis thaliana ubiquitin-protein ligase 2 (UPL2) gene, complete cds	4.3
5977	AP001419	Homo sapiens genomic DNA, chromosome 21q22.2, clone:PAC24K9, LB7T-ERG region, complete sequence	0.0002
5978	AL590384	Human DNA sequence from clone RP11-349A16 on chromosome Xq22.3-24, complete sequence [Homo sapiens]	0.02
5979	AB014460	Homo sapiens TSC2, NTHL1/NTH1 and SLC9A3R2/E3KARP genes, partial and complete cds	0.69
5980	XM_018334	Homo sapiens hypothetical protein FLJ22418 (FLJ22418), mRNA	0.026
5981	AF229850	Arabidopsis thaliana ferritin (Fer1) gene, complete cds	0.69
5982	AK017445	Mus musculus 10 days neonate head cDNA, RIKEN full-length enriched library, clone:5530402H04, full insert sequence	2.1
5983	AF197159	Mus musculus cubilin mRNA, partial cds	0.7

Table 3A Nearest Neighbor (BlastN vs. Genbank)			
SEQ ID NO	ACCESSN	DESCRIP	P VALUE
5984	XM_029346	Homo sapiens hypothetical gene supported by U79302; AK026607 (LOC90138), mRNA	0.026
5985	AK021517	Homo sapiens cDNA FLJ11455 fis, clone HEMBA1001497	0.05
5986	Z74823	S.cerevisiae chromosome XV reading frame ORF YOL081w	0.23
5987	XM_003091	Homo sapiens KIAA0001 gene product; putative G-protein-coupled receptor; G protein coupled receptor for UDP-glucose (KIAA0001), mRNA	1.9
5988	XM_039450	Homo sapiens similar to NONHISTONE CHROMOSOMAL PROTEIN HMG-14 (H. sapiens) (LOC91606), mRNA	4E-47
5989	XM_045103	Homo sapiens G protein coupled receptor interacting protein, complement-clq tumor necrosis factor-related (ZSIG37), mRNA	0.23
5990	AK026086	Homo sapiens cDNA: FLJ22433 fis, clone HRC09172	0.078
5991	Z22800	H.sapiens microsatellite repeat	3E-45
5992	AF165136	Mycoplasma mycoides mycoides LC hypothetical surface located membrane protein and lipoprotein B precursor (lppB) genes, partial cds	0.23
5993	AF269465	Staphylococcus epidermidis strain SR1 clone step.1004h05 genomic sequence	0.23
5994	XM_049474	Homo sapiens KIAA1538 protein (KIAA1538), mRNA	0.23
5995	AC001478	Homo sapiens (subclone 1_h7 from BAC H112) DNA sequence, complete sequence	0.63
5996	AF380163	Influenza A virus (A/Goose/Guangdong/3/97(H5N1)) segment 3 polymerase (PA) gene, complete cds	0.077
5997	Z74263	S.cerevisiae chromosome IV reading frame ORF YDL215c	0.36
5998	AF282059	Homo sapiens clone 2qtel_edc17fR sequence	7.9
5999	AF233898	Escherichia coli strain KI1218 BfpA (bfpA) gene, partial cds	0.073
6000	M92086	Wasp venom protein mRNA sequence	1.7
6001	XM_006601	Homo sapiens hypothetical protein FLJ10659 (FLJ10659), mRNA	0
6002	D14074	Bovine mRNA for cyclophilin, complete cds	0.23
6003	AC079391	Homo sapiens clone CTD-2243M11, complete sequence	4
6004	AE006055	Pasteurella multocida PM70 section 22 of 204 of the complete genome	0.077
6005	Y09000	R.norvegicus mRNA for dendrin	0.18
6006	AK006991	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:1700084F23, full insert sequence	2.1
6007	AF319636	Pelargonium peltatum cultivar Guenievre microsatellite Pp3a sequence	0.001
6008	D17668	Clostridium septicum gene for alpha-toxin, complete cds	0.077
6009	AK025193	Homo sapiens cDNA: FLJ21540 fis, clone COL06156	0.025
6010	X17191	E.gracilis chloroplast RNA polymerase rpoB-rpoC1-rpoC2 operon	0.22



Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
4	12721131	gi 12721131 gb AAK02908.1  (AE006121) unknown [Pasteurella multocida]	0.14
6	1504016	gi 1504016 dbj BAA13207.1  (D86971) no similarities to reported gene products [Homo sapiens]	0.0003
7	12838708	gi 12838708 dbj BAB24303.1  (AK005889) putative [Mus musculus]	5E-74
8	12854246	gi 12854246 dbj BAB29972.1  (AK015778) putative [Mus musculus]	2.2
9	14715574	gi 14715574 dbj BAB62041.1  (AB065434) PRPK mutant1 [Homo sapiens]	4E-80
10	6678964	gi 6678964 ref NP_032671.1  murinoglobulin 1 [Mus musculus] sp P28665 A2M1_MOUSE MURINOglobulin 1 PRECURSOR (MUG1) gb AAA73048.1  (M65736) [Mouse murinoglobulin mRNA, complete cds.], gene product [Mus musculus]	4.2
14	11351090	gi 11351090 pir E82999 probable beta-ketoacyl synthase PA5174 [imported] - Pseudomonas aeruginosa (strain PAO1) gb AAG08559.1 AE004930_5 (AE004930) probable beta-ketoacyl synthase [Pseudomonas aeruginosa]	9.1
15	9506761	gi 9506761 ref NP_062298.1  glucosamine-phosphate N-acetyltransferase; glucosamine-6-phosphate acetyltransferase [Mus musculus] emb CAA04463.1  (AJ001006) EMeg32 protein [Mus musculus] dbj BAB22120.1  (AK002466) putative [Mus musculus] dbj BAB25161.1  (AK007647) putative [Mus musculus] dbj BAB25212.1  (AK007722) putative [Mus musculus] dbj BAB25240.1  (AK007764) putative [Mus musculus] dbj BAB25749.1  (AK008566) putative [Mus musculus] dbj BAB27395.1  (AK011098) putative [Mus musculus] dbj BAB31241.1  (AK018499) putative [Mus musculus]	1E-84
20	9369403	gi 9369403 gb AAF87151.1 AC002423_16 (AC002423) T23E23.19 [Arabidopsis thaliana]	7.4
24	12862430	gi 12862430 dbj BAB32466.1  (AB047280) Gag-like protein [Tricholoma matsutake]	2.6

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
25	7434102	gi 7434102 pir  H71620 aspartate transaminase (EC 2.6.1.1) PFB0200c [similarity] - malaria parasite (Plasmodium falciparum) gb AAC71829.1  (AE001380) aspartate aminotransferase [Plasmodium falciparum]	0.73
26	14721245	gi 14721245 ref XP_044013.1  kinesin-like protein 2 [Homo sapiens]	8E-91
27	9506713	gi 9506713 ref NP_061856.1  nucleolar protein family A, member 1; H/ACA small nucleolar RNPs protein 1 [Homo sapiens] ref XP_003601.1  nucleolar protein family A, member 1 (H/ACA small nucleolar RNPs) [Homo sapiens] ref XP_039016.1  nucleolar protein family A, member 1 (H/ACA small nucleolar RNPs) [Homo sapiens] ref NP_127460.1  nucleolar protein family A, member 1; H/ACA small nucleolar RNPs protein 1 [Homo sapiens] emb CAB76563.1  (AJ276003) GAR1 protein [Homo sapiens] gb AAH03413.1 AAH03413 (BC003413) nucleolar protein family A, member 1 (H/ACA small nucleolar RNPs) [Homo sapiens]	4
28	14150082	gi 14150082 ref NP_115691.1  hypothetical protein MGC4399 [Homo sapiens] gb AAH04991.1 AAH04991 (BC004991) Similar to RIKEN cDNA 5730438N18 gene [Homo sapiens]	0.001
29	12861366	gi 12861366 dbj BAB32182.1  (AK020701) putative [Mus musculus]	5E-42
32	14739173	gi 14739173 ref XP_037531.1  59395 [Homo sapiens]	3E-23
36	7513572	gi 7513572 pir  S72438 phosphatidylserine decarboxylase (EC 4.1.1.65) precursor, mitochondrial - Chinese hamster	e-112
37	7488381	gi 7488381 pir  T08408 transcription factor homolog F18B3.150 - Arabidopsis thaliana emb CAB42916.1  (AL049862) transcription factor-like protein [Arabidopsis thaliana]	8.1
38	12849752	gi 12849752 dbj BAB28466.1  (AK012782) putative [Mus musculus]	5E-89
39	14715574	gi 14715574 dbj BAB62041.1  (AB065434) PRPK mutant1 [Homo sapiens]	1E-88
40	12832845	gi 12832845 dbj BAB22281.1  (AK002682) putative [Mus musculus]	4E-51

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
43	12832845	gi 12832845 dbj BAB22281.1  (AK002682) putative [Mus musculus]	6E-45
47	11558040	gi 11558040 emb CAC17800.1  (AJ245890) hypothetical protein [Polymyxa betae]	7.6
48	8052306	gi 8052306 emb CAB92239.1  (AJ242721) AIP37 protein [Mus musculus]	1.3
49	13812380	gi 13812380 ref NP_113498.1  N-myristoyltransferase [Guillardia theta] emb CAC27067.1  (AJ010592) N-myristoyltransferase [Guillardia theta]	7
51	8885549	gi 8885549 dbj BAA97479.1  (AB025604) telomere repeat-binding protein [Arabidopsis thaliana]	1.5
52	14727244	gi 14727244 ref XP_035596.1  hypothetical protein AF140225 [Homo sapiens] ref XP_035597.1  49482 [Homo sapiens] gb AAH07829.1 AAH07829 (BC007829) Similar to hypothetical protein AF140225 [Homo sapiens]	6E-58
57	14737646	gi 14737646 ref XP_038048.1  similar to APICAL ENDOSOMAL GLYCOPROTEIN PRECURSOR (R. norvegicus) [Homo sapiens]	0.003
58	13811699	gi 13811699 ref NP_109668.1  zinc finger protein 313; zinc finger protein 228 [Mus musculus] gb AAG01141.1 AF282919_1 (AF282919) Zfp228 [Mus musculus]	0.00002
59	14042394	gi 14042394 dbj BAB55226.1  (AK027604) unnamed protein product [Homo sapiens]	e-112
60	14769036	gi 14769036 ref XP_036091.1  19140 [Homo sapiens]	9E-97
61	13648339	gi 13648339 ref XP_003184.2  zinc finger protein ANC_2H01 [Homo sapiens]	0.0006
64	13638702	gi 13638702 ref XP_015971.1  hypothetical protein FLJ23384 [Homo sapiens] ref XP_048858.1  hypothetical protein FLJ23384 [Homo sapiens]	2E-86
65	14150082	gi 14150082 ref NP_115691.1  hypothetical protein MGC4399 [Homo sapiens] gb AAH04991.1 AAH04991 (BC004991) Similar to RIKEN cDNA 5730438N18 gene [Homo sapiens]	0.00003
67	14727244	gi 14727244 ref XP_035596.1  hypothetical protein AF140225 [Homo sapiens] ref XP_035597.1  49482 [Homo sapiens] gb AAH07829.1 AAH07829 (BC007829) Similar to hypothetical protein AF140225 [Homo sapiens]	2E-38

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
68	14727244	gi 14727244 ref XP_035596.1  hypothetical protein AF140225 [Homo sapiens] ref XP_035597.1  49482 [Homo sapiens] gb AAH07829.1 AAH07829 (BC007829) Similar to hypothetical protein AF140225 [Homo sapiens]	6E-60
69	14715574	gi 14715574 dbj BAB62041.1  (AB065434) PRPK mutant1 [Homo sapiens]	2E-98
70	7491888	gi 7491888 pir  T41272 hypothetical protein SPCC297.05 - fission yeast (Schizosaccharomyces pombe) emb CAB40785.1  (AL049609) hypothetical protein [Schizosaccharomyces pombe]	9.3
71	12843000	gi 12843000 dbj BAB25820.1  (AK008666) putative [Mus musculus]	1E-86
72	13542310	gi 13542310 ref NP_111998.1  Uncharacterized conserved protein [Thermoplasma volcanium]	6.6
73	14728906	gi 14728906 ref XP_003327.3  hypothetical protein FLJ10858 [Homo sapiens]	7E-98
74	14749106	gi 14749106 ref XP_031512.1  14599 [Homo sapiens] dbj BAB15298.1  (AK025963) unnamed protein product [Homo sapiens]	1E-26
76	1176169	gi 1176169 sp P28636 YHBE_ECOLI HYPOTHETICAL 35.0 KDA PROTEIN IN DACB-RPMA INTERGENIC REGION pir  B65109 hypothetical 35.0K protein (dacB-rpmA intergenic region) - Escherichia coli gb AAA57985.1  (U18997) ORF_f321 [Escherichia coli] gb AAC76216.1  (AE000399) orf, hypothetical protein [Escherichia coli K12] gb AAG58318.1 AE005547_4 (AE005547) orf, hypothetical protein [Escherichia coli O157:H7 EDL933] dbj BAB37486.1  (AP002564) hypothetical protein [Escherichia coli O157:H7]	0.23
77	13161357	gi 13161357 dbj BAB32948.1  (AP002908) hypothetical protein~similar to Arabidopsis thaliana F1P2.140 [Oryza sativa]	6.3
78	8922806	gi 8922806 ref NP_060761.1  hypothetical protein FLJ10986 [Homo sapiens] dbj BAA91940.1  (AK001848) unnamed protein product [Homo sapiens] gb AAH00610.1 AAH00610 (BC000610) hypothetical protein FLJ10986 [Homo sapiens]	5E-83
82	14603356	gi 14603356 gb AAH10136.1 AAH10136 (BC010136) Unknown (protein for MGC:19513) [Homo sapiens]	1E-74

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
83	12804667	gi 12804667 gb AAH01758.1 AAH01758 (BC001758) hypothetical protein FLJ20758 [Homo sapiens]	0.000000005
90	9795608	gi 9795608 gb AAF98426.1 AC021044_5 (AC021044) Unknown protein [Arabidopsis thaliana]	0.7
91	13631937	gi 13631937 ref XP_001412.3  metal-regulatory transcription factor 1 [Homo sapiens]	0.0004
92	14574479	gi 14574479 gb AAF60869.2  (AC024856) Hypothetical protein Y71G10AR.2 [Caenorhabditis elegans]	0.15
93	14970562	gi 14970562 emb CAC44371.1  (AJ292465) WDR9 protein, form A [Homo sapiens]	2E-16
98	12855751	gi 12855751 dbj BAB30445.1  (AK016814) putative [Mus musculus]	3.1
102	11498284	gi 11498284 ref NP_069510.1  adenylate kinase (adk) [Archaeoglobus fulgidus] sp O29581 KAD_ARCFU ADENYLATE KINASE (ATP-AMP TRANSPHOSPHORYLASE) pir D69334 adenylate kinase (EC 2.7.4.3) - Archaeoglobus fulgidus gb AAB90565.1  (AE001058) adenylate kinase (adk) [Archaeoglobus fulgidus]	4.00E-13
104	9910248	gi 9910248 ref NP_064579.1  GL004 protein [Homo sapiens] gb AAF86949.1 AF226049_1 (AF226049) GL004 [Homo sapiens]	1.00E-85
105	7302191	gi 7302191 gb AAF57287.1  (AE003784) CG7856 gene product [Drosophila melanogaster]	1.00E+00
106	12005513	gi 12005513 gb AAG44486.1 AF246239_1 (AF246239) AD030 [Homo sapiens] gb AAG44658.1 AF258660_1 (AF258660) AD033 [Homo sapiens]	2.00E-73
108	13874435	gi 13874435 dbj BAB46923.1  (AB000782) cerebral protein-10 [Homo sapiens]	4.00E-04
109	14783375	gi 14783375 ref XP_045533.1  protein predicted by clone 23627 [Homo sapiens]	1.60E-01
110	7229532	gi 7229532 gb AAF42865.1 AF225924_1 (AF225924) staufen [Drosophila virilis]	3.30E+00
112	14775931	gi 14775931 ref XP_049935.1  hypothetical protein FLJ14950 [Homo sapiens]	3.00E-77
114	10140758	gi 10140758 gb AAG13589.1 AC051633_5 (AC051633) putative ubiquitin protein [Oryza sativa]	2.10E+00



Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
138	13357869	gi 13357869 ref NP_078143.1  unique hypothetical [Ureaplasma urealyticum] pir D82907 hypothetical protein UU309 [imported] - Ureaplasma urealyticum gb AAF30718.1 AE002128_6 (AE002128) unique hypothetical [Ureaplasma urealyticum]	2.7
139	1076802	gi 1076802 pir S49915 extensin-like protein - maize emb CAA84230.1  (Z34465) extensin-like protein [Zea mays] prf 2111476A extensin-like domain [Zea mays]	1.9
140	11466208	gi 11466208 ref NP_066531.1  NADH dehydrogenase subunit 4 [Naegleria gruberi] gb AAG17809.1 AF288092_34 (AF288092) NADH dehydrogenase subunit 4 [Naegleria gruberi]	6.6
145	7490290	gi 7490290 pir T38644 conserved hypothetical protein SPAC323.07c - fission yeast (Schizosaccharomyces pombe) emb CAB53410.1  (AL109988) conserved hypothetical protein; UPF0013 [Schizosaccharomyces pombe]	0.78
147	5813770	gi 5813770 gb AAD52006.1 AF017304_1 (AF017304) FMVIB [Morone saxatilis]	6.8
149	2497311	gi 2497311 sp P55803 MOG_BOVIN MYELIN-OLIGODENDROCYTE GLYCOPROTEIN PRECURSOR pir A47712 myelin/oligodendrocyte glycoprotein precursor - bovine	0.33
152	609342	gi 609342 gb AAA58698.1  (U04946) nucleophosmin-anaplastic lymphoma kinase fusion protein [Homo sapiens]	2.7
153	7481152	gi 7481152 pir T36795 probable penicillin acylase - Streptomyces coelicolor emb CAB46792.1  (AL096811) putative penicillin acylase [Streptomyces coelicolor A3(2)]	8

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
154	12229694	gi 12229694 sp O93830 BET2_CANAL TYPE II PROTEINS GERANYLGERANYLTRANSFERASE BETA SUBUNIT (TYPE II PROTEIN GERANYLGERANYLTRANSFERASE BETA SUBUNIT) (GGTASE-II-BETA) (PGGT) (YPT1/SEC4 PROTEINS GERANYLGERANYLTRANSFERASE BETA SUBUNIT) dbj BAA35193.1  (AB021171) Beta subunit of geranylgeranyl transferase type2 [Candida albicans]	4.7
156	9630058	gi 9630058 ref NP_046276.1  unknown [Orgyia pseudotsugata single capsid nuclear polyhedrosis virus] sp O10359 Y120_NPVOP HYPOTHETICAL 9.3 KD PROTEIN (ORF120) pir T10389 hypothetical protein 120 - Orgyia pseudotsugata nuclear polyhedrosis virus gb AAC59119.1  (U75930) unknown [Orgyia pseudotsugata single capsid nuclear polyhedrosis virus]	8.5
157	9965966	gi 9965966 gb AAG10219.1 AF294433_1 (AF294433) coat protein [Alfalfa mosaic virus]	7
158	7296047	gi 7296047 gb AAF51343.1  (AE003585) CG17711 gene product [Drosophila melanogaster]	4.6
161	13507856	gi 13507856 ref NP_109805.1  ribosomal protein L20 [Mycoplasma pneumoniae] sp P78023 RL20_MYCPN 50S RIBOSOMAL PROTEIN L20 pir S73363 ribosomal protein L20 - Mycoplasma pneumoniae (strain ATCC 29342) gb AAG34734.1 AE000004_3 (AE000004) ribosomal protein L20 [Mycoplasma pneumoniae]	0.86
162	8393641	gi 8393641 ref NP_058889.1  kynurenine aminotransferase II [Rattus norvegicus] emb CAA90507.1  (Z50144) kynurenine/alpha-aminoadipate aminotransferase [Rattus norvegicus]	4.2
169	1515448	gi 1515448 gb AAC45559.1  (U63096) Description: pBF4 gene involved in Bacteroides spp. conjugal transfer [Bacteroides fragilis]	2.6
175	422832	gi 422832 pir B46629 mucin 6, gastric (3-repeat clone) - human (fragment) gb AAB61945.1  (L07518) mucin [Homo sapiens]	3.2



Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
176	7504075	gi 7504075 pir T22584 hypothetical protein F53F4.6 - <i>Caenorhabditis elegans</i> emb CAB01215.1  (Z77663) F53F4.6 [ <i>Caenorhabditis elegans</i> ]	6.6
178	13385538	gi 13385538 ref NP_080316.1  RIKEN cDNA 2810036K01 gene [ <i>Mus musculus</i> ] dbj BAB28520.1  (AK012865) putative [ <i>Mus musculus</i> ]	2E-48
180	902377	gi 902377 gb AAA82981.1  (U18059) polyprotein [pestivirus type 1]	0.53
181	13421499	gi 13421499 gb AAK22335.1  (AE005708) conserved hypothetical protein [ <i>Caulobacter crescentus</i> ]	6.2
187	10803574	gi 10803574 ref NP_045972.1  GvpN [ <i>Halobacterium</i> sp. NRC-1] sp Q9HI16 GVN1_HALN1 GVPN PROTEIN 1 pir A47053 gas-vesicle operon protein gvpN [imported] - <i>Halobacterium salinarum</i> pir T08244 gas-vesicle operon protein gvpN - <i>Halobacterium</i> sp. (strain NRC-1) plasmid pNRC100 gb AAC82811.1  (AF016485) GvpN [ <i>Halobacterium</i> sp. NRC-1] gb AAD15044.1  (L03361) gas vesicle protein [Plasmid pNRC100] gb AAG20728.1  (AE005142) GvpN protein, cluster A; GvpN1 [ <i>Halobacterium</i> sp. NRC-1]	7.40E-01
192	7662532	gi 7662532 ref NP_054838.1  PRO0195 protein [ <i>Homo sapiens</i> ] gb AAF24025.1 AF090901_1 (AF090901) PRO0195 [ <i>Homo sapiens</i> ]	2.60E-01
194	5360226	gi 5360226 dbj BAA36472.1  (AB015177) F0-ATPase subunit 6 [ <i>Beta vulgaris</i> ]	2.3
196	3024921	gi 3024921 sp Q58312 Y902_METJA HYPOTHETICAL PROTEIN MJ0902 pir F64412 hypothetical protein MJ0902 - <i>Methanococcus jannaschii</i> gb AAB98907.1  (U67533) <i>M. jannaschii</i> predicted coding region MJ0902 [ <i>Methanococcus jannaschii</i> ]	6.5
198	7522108	gi 7522108 pir T29097 pro-pol-dUTPase polyprotein - murine endogenous retrovirus ERV-L (fragment) emb CAA73251.1  (Y12713) protease; reverse transcriptase; RNaseH; integrase; dUTPase; Pro-Pol-dUTPase polyprotein [ <i>Mus musculus</i> ]	1.7



Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
233	10178317	gi 10178317 emb CAC08403.1  (AL121928) bA18I14.5.1 (novel protein isoform 1) [Homo sapiens]	7
234	630444	gi 630444 pir  S43955 probable NADH dehydrogenase (ubiquinone) (EC 1.6.5.3) chain 3, kinetoplast - Trypanosoma brucei mitochondrion (fragment) gb AAA20887.1  (L26251) CR5 [Trypanosoma brucei]	6.2
239	7505826	gi 7505826 pir  T25816 hypothetical protein K12D9.2 - Caenorhabditis elegans	1.4
240	7434912	gi 7434912 pir  H71934 phosphatidylglycerophosphate synthase - Helicobacter pylori (strain J99) gb AAD05990.1  (AE001475) PHOSPHATIDYLGLYCEROPHOSPHATE SYNTHASE [Helicobacter pylori J99]	5.8
243	6136155	gi 6136155 sp O70546 UTX_MOUSE UBIQUITOUSLY TRANSCRIBED X CHROMOSOME TETRATRIPEPTIDE REPEAT PROTEIN (UBIQUITOUSLY TRANSCRIBED TPR PROTEIN ON THE X CHROMOSOME) emb CAA05692.1  (AJ002730) UTX [Mus musculus]	8.90E+00
246	2143962	gi 2143962 pir  I59422 rsec8 - rat (fragment) gb AAC52265.1  (U32498) rsec8 [Rattus norvegicus]	1E-93
250	6136155	gi 6136155 sp O70546 UTX_MOUSE UBIQUITOUSLY TRANSCRIBED X CHROMOSOME TETRATRIPEPTIDE REPEAT PROTEIN (UBIQUITOUSLY TRANSCRIBED TPR PROTEIN ON THE X CHROMOSOME) emb CAA05692.1  (AJ002730) UTX [Mus musculus]	7.1

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
255	12737603	gi 12737603 ref XP_006839.2  activin A receptor type II-like 1 [Homo sapiens] ref XP_050707.1  activin A receptor type II-like 1 [Homo sapiens] sp P37023 KIR3_HUMAN SERINE/THREONINE-PROTEIN KINASE RECEPTOR R3 PRECURSOR (SKR3) (ACTIVIN RECEPTOR-LIKE KINASE 1) (ALK-1) (TGF-B SUPERFAMILY RECEPTOR TYPE I) (TSR-I) pir A49431 activin/TGF-beta-like type I receptor - human gb AAA16160.1  (L17075) TGF-b superfamily receptor type I [Homo sapiens] gb AAB61900.1  (U77713) activin receptor like kinase 1 [Homo sapiens]	7.50E+00
265	2133974	gi 2133974 pir S68425 SoxP1 protein - rainbow trout dbj BAA11868.1  (D83256) SoxP1 [Oncorhynchus mykiss]	0.18
266	9838427	gi 9838427 ref NP_064041.1  orf214 [Beta vulgaris]	2.2
268	5731737	gi 5731737 dbj BAA83337.1  (AB021878) similar to yeast sodium/proton exchanger [Oryza sativa]	3.3
271	13642312	gi 13642312 ref XP_002895.2  parathyroid hormone receptor 1 [Homo sapiens] ref XP_033742.1  parathyroid hormone receptor 1 [Homo sapiens] ref XP_033743.1  parathyroid hormone receptor 1 [Homo sapiens]	9
272	11545138	gi 11545138 emb CAC08390.2  (AL121886) dJ1028D15.1 (continued from dJ138B7.1 in Em:Z98752) [Homo sapiens]	0.0000008
275	6323677	gi 6323677 ref NP_013748.1  Ymr034cp [Saccharomyces cerevisiae] sp Q05131 YMS4_YEAST HYPOTHETICAL 48.4 KD PROTEIN IN ARP9-IMP2 INTERGENIC REGION pir S53951 probable membrane protein YMR034c - yeast (Saccharomyces cerevisiae) emb CAA89150.1  (Z49213) unknown [Saccharomyces cerevisiae]	6.6
277	7297043	gi 7297043 gb AAF52312.1  (AE003612) CG13992 gene product [Drosophila melanogaster]	8.1
282	1616595	gi 1616595 emb CAA41710.1  (X58907) steroid 21-monooxygenase [Homo sapiens]	6.8
283	14089610	gi 14089610 emb CAC13370.1  (AL445563) unknown; predicted coding region [Mycoplasma pulmonis]	2.1



Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
322	11466552	gi 11466552 ref NP_044801.1  NADH dehydrogenase, subunit 4 [Reclinomonas americana] pir S78183 NADH dehydrogenase (ubiquinone) (EC 1.6.5.3) chain 4 - Reclinomonas americana (ATCC 50394) mitochondrion gb AAD11916.1  (AF007261) NADH dehydrogenase, subunit 4 [Reclinomonas americana]	9.1
323	13603897	gi 13603897 gb AAK31986.1 AF295594_1 (AF295594) SKTx1 precursor [Buthus martensii]	9.3
325	11497767	gi 11497767 ref NP_068989.1  hypothetical protein [Archaeoglobus fulgidus] sp O30087 Y150_ARCFU HYPOTHETICAL PROTEIN AF0150 pir F69268 hypothetical protein AF0150 - Archaeoglobus fulgidus gb AAB91087.1  (AE001096) A. fulgidus predicted coding region AF0150 [Archaeoglobus fulgidus]	7.1
332	7506939	gi 7506939 pir T24356 hypothetical protein T02D1.3 - Caenorhabditis elegans emb CAB05908.1  (Z83319) T02D1.3 [Caenorhabditis elegans]	3.9
336	7510675	gi 7510675 pir T29689 hypothetical protein ZC266.2 - Caenorhabditis elegans gb AAA96101.1  (U53140) ZC266.2 gene product [Caenorhabditis elegans]	2.4
337	12697923	gi 12697923 dbj BAB21780.1  (AB051476) KIAA1689 protein [Homo sapiens]	3E-21
338	630465	gi 630465 pir S47042 protein kinase (EC 2.7.1.37) cdc2-related 1 - malaria parasite (Plasmodium falciparum)	5.7
340	7488318	gi 7488318 pir T01191 RNA-directed DNA polymerase homolog F21E10.5 - Arabidopsis thaliana gb AAC13599.1  (AF058914) similar to reverse transcriptase (Pfam: transcript_fact.hmm, score: 72.31) [Arabidopsis thaliana]	5
341	5804818	gi 5804818 emb CAB52872.1  (AL021712) putative protein [Arabidopsis thaliana] emb CAB79171.1  (AL161556) putative protein [Arabidopsis thaliana]	5
343	14579376	gi 14579376 gb AAK69253.1 AF336309_48 (AF336309) SpyB [Yersinia enterocolitica]	8.2

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
344	11284162	gi 11284162 pir  H81077 hypothetical protein NMB1490 [imported] - Neisseria meningitidis (group B strain MD58) gb AAF41846.1  (AE002498) hypothetical protein [Neisseria meningitidis MC58]	3
347	11361512	gi 11361512 pir  H82781 hypothetical protein XF0626 [imported] - Xylella fastidiosa (strain 9a5c) gb AAF83436.1 AE003908_4 (AE003908) hypothetical protein [Xylella fastidiosa 9a5c]	7.6
348	7497054	gi 7497054 pir  T19739 hypothetical protein C35A5.4 - Caenorhabditis elegans emb CAA94905.1  (Z71185) contains similarity to Pfam domain: PF00635 (MSP (Major sperm protein) domain), Score=66.4, E-value=2e16, N=1 [Caenorhabditis elegans]	0.064
349	6531601	gi 6531601 gb AAF15500.1  (AF167672) immunoglobulin heavy chain variable region [Homo sapiens]	1.6
352	12858471	gi 12858471 dbj BAB31327.1  (AK018655) putative [Mus musculus]	3.9
353	2128157	gi 2128157 pir  C64319 hypothetical protein MJ0154 - Methanococcus jannaschii	0.98
355	14195575	gi 14195575 sp P58114 YV78_CAUCR HYPOTHETICAL PROTEIN CC3178 gb AAK25140.1  (AE005981) pirin-related protein [Caulobacter crescentus]	4.20E+00
359	7468435	gi 7468435 pir  B72015 metalloproteinase, insulinase family CP0903 [imported] - Chlamydomophila pneumoniae (strains CWL029 and AR39) gb AAD19093.1  (AE001675) Insulinase family/Protease III [Chlamydomophila pneumoniae CWL029] gb AAF38689.1  (AE002249) metalloprotease, insulinase family [Chlamydomophila pneumoniae AR39] dbj BAA99165.1  (AP002548) insulinase family/protease III [Chlamydomophila pneumoniae J138]	4.1
360	461649	gi 461649 sp Q05004 BB61_RABIT BRUSH BORDER 61.9 KD PROTEIN PRECURSOR pir  B45665 adult-specific 61.9K brush border protein precursor - rabbit emb CAA78302.1  (Z12840) protein of unknown function [Oryctolagus cuniculus]	8E-45





Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
388	7508443	gi 7508443 pir  T25281 hypothetical protein T25E12.11 - Caenorhabditis elegans emb CAB04829.1  (Z82052) contains similarity to Pfam domain: PF01827 (Domain of unknown function), Score=130.6, E-value=4.6e-36, N=1 [Caenorhabditis elegans]	3.4
389	7295832	gi 7295832 gb AAF51133.1  (AE003580) CG3347 gene product [Drosophila melanogaster]	0.032
390	7510359	gi 7510359 pir  T27283 hypothetical protein Y64G10A.f - Caenorhabditis elegans	8.2
395	6679381	gi 6679381 ref NP_032903.1  plasminogen [Mus musculus] sp P20918 PLMN_MOUSE PLASMINOGEN PRECURSOR [CONTAINS: ANGIOSTATIN] pir  PLMS plasmin (EC 3.4.21.7) precursor - mouse gb AAA50168.1  (J04766) plasminogen [Mus musculus]	2.2
396	8479518	gi 8479518 sp Q89853 VGP_EBORS STRUCTURAL GLYCOPROTEIN PRECURSOR (VIRION SPIKE GLYCOPROTEIN) [CONTAINS: GP1; GP2] gb AAC54889.1  (U23416) virion spike glycoprotein [Ebola virus] gb AAC54891.1  (U23417) virion spike glycoprotein [Ebola virus]	3.1
403	14133247	gi 14133247 dbj BAA86564.2  (AB033076) KIAA1250 protein [Homo sapiens]	6E-19
412	3293234	gi 3293234 gb AAC25913.1  (U96413) T-DNA oncoprotein [Agrobacterium tumefaciens]	9.1
415	7023033	gi 7023033 dbj BAA91809.1  (AK001649) unnamed protein product [Homo sapiens]	9E-85
416	12514130	gi 12514130 gb AAG55434.1 AE005285_1 (AE005285) putative oxidoreductase [Escherichia coli O157:H7 EDL933] dbj BAB34455.1  (AP002554) putative oxidoreductase [Escherichia coli O157:H7]	9.40E-01
418	4514359	gi 4514359 dbj BAA75394.1  (AB013377) ComGB [Bacillus halodurans]	2.6
419	7510324	gi 7510324 pir  T27250 hypothetical protein Y5F2A.3 - Caenorhabditis elegans emb CAA21648.1  (AL032641) Y5F2A.3 [Caenorhabditis elegans]	1.6

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
421	6981358	gi 6981358 ref NP_037137.1  phosphoinositide 3-kinase p85 (other splicing variants: p55 and p50) [Rattus norvegicus] sp Q63787 P85A_RAT PHOSPHATIDYLINOSITOL 3-KINASE REGULATORY ALPHA SUBUNIT (PI3-KINASE P85-ALPHA SUBUNIT) (PTDINS-3-KINASE P85-ALPHA) (PI3K) dbj BAA18932.1  (D64045) phosphatidylinositol 3-kinase p85 alpha subunit [Rattus norvegicus]	2.4
423	6576738	gi 6576738 dbj BAA88337.1  (AB005891) ORF2 [Platemys spixii]	3.4
424	6739553	gi 6739553 gb AAF27299.1  (AF146429) DeltaC [Danio rerio]	3.9
425	13816283	gi 13816283 gb AAK43020.1  (AE006883) Sulfate adenylyltransferase (sat) [Sulfolobus solfataricus]	3.6
428	11034774	gi 11034774 gb AAG27071.1 AF105225_7 (AF030414) NifQ [Gluconacetobacter diazotrophicus]	3.6
433	13364676	gi 13364676 dbj BAB38622.1  (AP002568) hypothetical protein [Escherichia coli O157:H7]	5.8
434	12845784	gi 12845784 dbj BAB26898.1  (AK010380) putative [Mus musculus]	0.075
435	12513917	gi 12513917 gb AAG55266.1 AE005270_2 (AE005270) Z1121 gene product [Escherichia coli O157:H7 EDL933] gb AAG55675.1 AE005306_4 (AE005306) Z1560 gene product [Escherichia coli O157:H7 EDL933] dbj BAB34723.1  (AP002554) putative membrane protein [Escherichia coli O157:H7]	8.3
436	7661654	gi 7661654 ref NP_056444.1  DKFZP566J153 protein [Homo sapiens] emb CAB43677.1  (AL050369) hypothetical protein [Homo sapiens]	0.42
437	1150678	gi 1150678 emb CAA50971.1  (X72086) ORF20R; B21R in citation [3] [Variola virus]	5.10E+00
438	8928456	gi 8928456 sp O51039 Y006_BORBU HYPOTHETICAL PROTEIN BB0006 pir F70100 conserved hypothetical integral membrane protein BB0006 - Lyme disease spirochete gb AAC66397.1  (AE001115) conserved hypothetical integral membrane protein [Borrelia burgdorferi]	4.2
440	7297273	gi 7297273 gb AAF52536.1  (AE003618) Myo28B1 gene product [Drosophila melanogaster]	3.3



Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
468	5306243	gi 5306243 gb AAD41976.1 AC006438_8 (AC006438) hypothetical protein [Arabidopsis thaliana]	4.2
470	7304025	gi 7304025 gb AAF59067.1  (AE003836) CG8639 gene product [Drosophila melanogaster]	3.20E-01
473	7303724	gi 7303724 gb AAF58773.1  (AE003829) lola gene product [alt 2] [Drosophila melanogaster] gb AAF58774.1  (AE003829) lola gene product [alt 3] [Drosophila melanogaster] gb AAF58775.1  (AE003829) lola gene product [alt 4] [Drosophila melanogaster] gb AAF58776.1  (AE003829) lola gene product [alt 5] [Drosophila melanogaster]	5.8
476	1098549	gi 1098549 gb AAA82594.1  (U25703) immunoglobulin light chain F class [Ictalurus punctatus]	7
477	4262231	gi 4262231 gb AAD14524.1  (AC006200) hypothetical protein [Arabidopsis thaliana]	3.8
478	5834894	gi 5834894 ref NP_006964.1 ND5_10021 NADH dehydrogenase subunit 5 [Caenorhabditis elegans] sp P24896 NU5M_CAEEL NADH-UBIQUINONE OXIDOREDUCTASE CHAIN 5 pir  S26037 NADH dehydrogenase (ubiquinone) (EC 1.6.5.3) chain 5 - Caenorhabditis elegans mitochondrion emb CAA38162.1  (X54252) ND5 protein (AA 1 - 527) [Caenorhabditis elegans]	0.23
480	14776608	gi 14776608 ref XP_033588.1  BAI1-associated protein 3 [Homo sapiens]	8.6
482	7448960	gi 7448960 pir  D72417 conserved hypothetical protein - Thermotoga maritima (strain MSB8) gb AAD35211.1 AE001697_11 (AE001697) conserved hypothetical protein [Thermotoga maritima]	9.1
484	7497960	gi 7497960 pir  T15840 hypothetical protein C54G7.3 - Caenorhabditis elegans gb AAA81392.1  (U40410) coded for by C. elegans cDNA yk9e10.5; coded for by C. elegans cDNA yk9e10.3; multiple regions of similarity to EGF-like repeats and cysteine-rich repeats [Caenorhabditis elegans]	5
487	14720884	gi 14720884 ref XP_032180.1  hypothetical protein DKFZp434A171 [Homo sapiens]	7.7
490	3201900	gi 3201900 gb AAC19365.1  (AF067420) SNC73 protein [Homo sapiens]	0.28

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
493	12018149	gi 12018149 gb AAG45421.1 AF309495_1 (AF309495) gamete-specific hydroxyproline-rich glycoprotein a2 [Chlamydomonas reinhardtii]	3.7
494	467634	gi 467634 emb CAA82856.1  (Z29969) HLY 4 [Entamoeba histolytica]	8.9
498	14726914	gi 14726914 ref XP_037105.1  KIAA0622 protein; Drosophila 'multiple asters' (Mast)-like homolog 1 [Homo sapiens]	6.8
499	11692583	gi 11692583 gb AAG39888.1 AF282303_1 (AF282303) odorant receptor M34 [Mus musculus]	9.5
502	7303064	gi 7303064 gb AAF58132.1  (AE003810) CG12960 gene product [Drosophila melanogaster]	4.9
504	13701254	gi 13701254 dbj BAB42549.1  (AP003133) ORFID:SA1289~hypothetical protein, similar to bifunctional biotin ligase/biotin operon repressor [Staphylococcus aureus subsp. aureus N315] dbj BAB57618.1  (AP003362) hypothetical protein [Staphylococcus aureus subsp. aureus Mu50]	5.9
505	137073	gi 137073 sp P17086 URE1_PROMI UREASE ALPHA SUBUNIT (UREA AMIDOHYDROLASE) pir  D43719 urease (EC 3.5.1.5) 62K chain - Proteus mirabilis gb AAA25669.1  (M31834) urease subunit C [Proteus mirabilis]	8.5
512	14548038	gi 14548038 sp Q9D952 EVPL_MOUSE ENVOPLAKIN (P210) (210 KDA CORNIFIED ENVELOPE PRECURSOR) emb CAC38864.2  (AJ309317) envoplakin [Mus musculus]	4.2
516	14031018	gi 14031018 gb AAK50523.1  (AY029684) NADH dehydrogenase F [Stenotaphrum secundatum]	4.6
518	14600836	gi 14600836 ref NP_147359.1  hypothetical protein [Aeropyrum pernix] pir  D72647 hypothetical protein APE0610 - Aeropyrum pernix (strain K1) dbj BAA79580.1  (AP000060) 376aa long hypothetical protein [Aeropyrum pernix]	2.8

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
519	4930062	gi 4930062 pdb 1MAA D Chain D, Mouse Acetylcholinesterase Catalytic Domain, Glycosylated Protein pdb 1MAA A Chain A, Mouse Acetylcholinesterase Catalytic Domain, Glycosylated Protein pdb 1MAA C Chain C, Mouse Acetylcholinesterase Catalytic Domain, Glycosylated Protein pdb 1MAA B Chain B, Mouse Acetylcholinesterase Catalytic Domain, Glycosylated Protein	8.8
522	9757603	gi 9757603 dbj BAB08147.1  (AB030877) maturase [Lilium mackliniae]	0.62
526	7445887	gi 7445887 pir T07052 probable potassium channel protein SKT2 - potato emb CAA70870.1  (Y09699) putative inward rectifying potassium channel [Solanum tuberosum]	2.1
528	2897832	gi 2897832 dbj BAA24910.1  (AB000134) cytochrome oxidase subunit I [Prorocentrum micans]	9.8
537	7446379	gi 7446379 pir T14039 protein kinase (EC 2.7.1.37), myotonic dystrophy-associated - rat gb AAC02941.1  (AF021935) myotonic dystrophy kinase-related Cdc42-binding kinase [Rattus norvegicus]	8E-52
544	14779648	gi 14779648 ref XP_027140.1  hypothetical protein FLJ23239 [Homo sapiens]	6.3
546	7292503	gi 7292503 gb AAF47906.1  (AE003481) CG15023 gene product [Drosophila melanogaster]	6.3
548	4758758	gi 4758758 ref NP_004529.1  nucleosome assembly protein 1-like 3 [Homo sapiens] sp Q99457 NPL3_HUMAN NUCLEOSOME ASSEMBLY PROTEIN 1-LIKE 3 dbj BAA08904.1  (D50370) nucleosome assembly protein [Homo sapiens]	1.6
554	14530412	gi 14530412 emb CAC42291.1  (Z69360) cDNA EST EMBL:U52071 comes from this gene [Caenorhabditis elegans]	7
559	6680788	gi 6680788 ref NP_031576.1  Bloom syndrome protein homolog (human) [Mus musculus] sp O88700 BLM_MOUSE BLOOM'S SYNDROME PROTEIN HOMOLOG emb CAB10933.1  (Z98263) BLM protein [Mus musculus]	4.8

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
560	3294495	gi 3294495 gb AAC25822.1  (AF038608) contains similarity to Mus musculus tumor susceptibility protein TSG101 (GB:U52945) [Caenorhabditis elegans]	0.78
561	6319273	gi 6319273 ref NP_009356.1  pre-tRNA processing; Pta1p [Saccharomyces cerevisiae] sp Q01329 PTA1_YEAST PTA1 PROTEIN pir  S31299 pre-tRNA processing protein PTA1 - yeast (Saccharomyces cerevisiae) gb AAA34919.1  (M95673) pta1 [Saccharomyces cerevisiae] gb AAC04988.1  (U12980) Pta1p: Pre-tRNA processing involved protein [Saccharomyces cerevisiae]	9.9
567	5817732	gi 5817732 gb AAD52875.1 AF142703_1 (AF142703) maturase-like protein [Ophrestia radicata]	6.6
569	126296	gi 126296 sp P08548 LIN1_NYCCO LINE-1 REVERSE TRANSCRIPTASE HOMOLOG prf  1207289B reverse transcriptase related protein [Nycticebus coucang]	0.00000002
572	13816099	gi 13816099 gb AAK42875.1  (AE006870) Hypothetical protein [Sulfolobus solfataricus]	2.1
574	12513361	gi 12513361 gb AAG54834.1 AE005228_1 (AE005228) putative glutaminase [Escherichia coli O157:H7 EDL933] dbj BAB33961.1  (AP002552) putative glutaminase [Escherichia coli O157:H7]	3.3
575	11350453	gi 11350453 pir  B82965 hypothetical protein PA5456 [imported] - Pseudomonas aeruginosa (strain PAO1) gb AAG08841.1 AE004958_11 (AE004958) hypothetical protein [Pseudomonas aeruginosa]	9
584	1174945	gi 1174945 sp P43109 VEXB_SALTI VI POLYSACCHARIDE EXPORT INNER-MEMBRANE PROTEIN VEXB pir  G36892 Vi polysaccharide capsule transporter VexB - Salmonella typhi dbj BAA03197.1  (D14156) Wzm protein [Salmonella typhi]	4.5
586	4566616	gi 4566616 gb AAD23408.1 AF113531_1 (AF113531) follicle-stimulating hormone receptor precursor [Coturnix coturnix]	2
589	14746756	gi 14746756 ref XP_039102.1  similar to hypothetical protein FLJ20378 (H. sapiens) [Homo sapiens]	0.007

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
590	7429823	gi 7429823 pir  D69991 conserved hypothetical protein yteU - Bacillus subtilis gb AAC00275.1  (AF008220) YteU [Bacillus subtilis] emb CAB14987.1  (Z99119) similar to hypothetical proteins from B. subtilis [Bacillus subtilis]	0.49
592	11877309	gi 11877309 emb CAC19023.1  (AJ278707) ORF 4 [Neisseria meningitidis phage 2120]	9.2
594	14193715	gi 14193715 gb AAK56102.1 AF332074_1 (AF332074) peroxisome proliferator-activated receptor binding protein [Mus musculus]	0.000002
595	14625344	gi 14625344 gb AAK71419.1 U80842_9 (U80842) Hypothetical protein ZC239.19 [Caenorhabditis elegans]	1.9
596	1107614	gi 1107614 emb CAA62696.1  (X91351) viral infectivity factor protein [Human immunodeficiency virus type 1]	0.008
599	6324561	gi 6324561 ref NP_014630.1  required to degrade misfolded ER lumenal and integral membrane proteins; Hrd1p [Saccharomyces cerevisiae] pir  S66695 probable membrane protein YOL013c - yeast (Saccharomyces cerevisiae) emb CAA99012.1  (Z74755) ORF YOL013c [Saccharomyces cerevisiae]	6.7
600	7494878	gi 7494878 pir  T33047 hypothetical protein B0344.2 - Caenorhabditis elegans gb AAC16982.1  (AF067209) B0344.2 gene product [Caenorhabditis elegans]	0.94
601	11347199	gi 11347199 pir  C81351 probable UDP-N-acetylmuramoylalanyl-D-glutamyl-2, 6-diaminopimelate-D-alanyl-D-alanine ligase (EC 6.3.2.15) Cj0795c [imported] - Campylobacter jejuni (strain NCTC 11168) emb CAB73060.1  (AL139076) putative UDP-N-acetylmuramoylalanyl-D-glutamyl-2, 6-diaminopimelate- - ligase [Campylobacter jejuni]	0.55
604	1293067	gi 1293067 gb AAB06014.1  (U50958) drosophila seven-in-absentia gene product homolog [Mus musculus]	7.9



Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
606	5031975	gi 5031975 ref NP_005875.1  p21-activated kinase 4; protein kinase related to S. cerevisiae STE20, effector for Cdc42Hs [Homo sapiens] ref XP_041095.1  protein kinase related to S. cerevisiae STE20, effector for Cdc42Hs [Homo sapiens] ref XP_041093.1  protein kinase related to S. cerevisiae STE20, effector for Cdc42Hs [Homo sapiens] sp O96013 PAK4_HUMAN SERINE/THREONINE-PROTEIN KINASE PAK 4 (P21-ACTIVATED KINASE 4) (PAK-4) gb AAD01210.1  (AF005046) serine/threonine kinase [Homo sapiens] emb CAA09820.1  (AJ011855) PAK4 protein [Homo sapiens]	1.1
608	9280285	gi 9280285 dbj BAB01686.1  (AB046104) unnamed protein product [Macaca fascicularis]	8.7
609	5869819	gi 5869819 emb CAB55576.1  (AJ249395) NADH-ubiquinone oxidoreductase subunit 1 [Globodera pallida]	0.84
611	12045283	gi 12045283 ref NP_073094.1  conserved hypothetical protein [Mycoplasma genitalium] sp P47662 Y423_MYCGE HYPOTHETICAL PROTEIN MG423 pir G64246 conserved hypothetical protein MG423 - Mycoplasma genitalium gb AAC71647.1  (U39724) conserved hypothetical protein [Mycoplasma genitalium]	2.8
612	11289932	gi 11289932 pir T50247 probable helicase [imported] - fission yeast (Schizosaccharomyces pombe) emb CAB71840.1  (AL138666) putative helicase [Schizosaccharomyces pombe]	4.5
613	6119709	gi 6119709 emb CAB59566.1  (AJ249986) C3G protein [Rattus norvegicus]	1.6
620	7144507	gi 7144507 gb AAA58585.2  (U12823) hemolysin [Acanthamoeba polyphaga]	8.1
622	15011757	gi 15011757 gb AAB04582.3  (U64603) Hypothetical protein C09B7.1 [Caenorhabditis elegans]	7
625	8923324	gi 8923324 ref NP_060247.1  hypothetical protein FLJ20345 [Homo sapiens] ref XP_008161.3  hypothetical protein FLJ20345 [Homo sapiens] dbj BAA91105.1  (AK000352) unnamed protein product [Homo sapiens]	0.004

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
626	6960319	gi 6960319 gb AAD43326.2 AF155156_1 (AF155156) adaptor-related protein complex AP-4 epsilon subunit [Homo sapiens]	0.00008
628	5739387	gi 5739387 gb AAD50450.1 AF169388_1 (AF169388) alpha 4 collagen IV [Mus musculus]	5.5
631	3510234	gi 3510234 gb AAC33487.1  (AC005581) R31237_1, partial CDS [Homo sapiens]	8.6
632	802150	gi 802150 gb AAB32775.1  (S75037) pancreatic peptidylglycine alpha-amidating monooxygenase, PAM=membrane-bound isoform {alternatively spliced, clone PAM-3, transmembrane domain (Ba region)} [human, islet cell tumor cell line QGP-1, Peptide Partial, 971 aa] [Homo sapiens]	1E-13
636	2105238	gi 2105238 gb AAB57954.1  (U86905) similar to variola and vaccinia E9L [Mollusum contagiosum virus subtype 1]	1.5
641	7576305	gi 7576305 emb CAB88003.1  (AJ277410) NADH dehydrogenase subunit 1 [Taenia hydatigena]	9.3
643	12231395	gi 12231395 gb AAG49078.1 AF216121_1 (AF216121) phytochrome B [Gyminnda tonduzii]	7
647	281178	gi 281178 pir  JQ1580 major surface antigen - hepatitis B virus (subtype adw4q-, strains CNTS-38 and Fou) emb CAA53344.1  (X75658) surface antigen [Hepatitis B virus]	6.7
652	7503145	gi 7503145 pir  T16315 hypothetical protein F41C3.6 - Caenorhabditis elegans gb AAC46813.1  (U23521) asked finisher to look for frameshift because of discrepancy between prediction and EST CEESW76F; looks like there should be a splice from 21751 to 21706. But no problem was found in the area [Caenorhabditis elegans]	6.9
653	14773502	gi 14773502 ref XP_043252.1  PCAF associated factor 65 alpha [Homo sapiens] gb AAH08785.1 AAH08785 (BC008785) PCAF associated factor 65 alpha [Homo sapiens]	3E-10
658	14732840	gi 14732840 ref XP_034110.1  hypothetical protein XP_034110 [Homo sapiens]	1.8
659	13442965	gi 13442965 gb AAK26242.1 AF247132_1 (AF247132) putative chromatin remodeling factor [Mus musculus]	4



Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
703	4493893	gi 4493893 emb CAB39002.1  (AL034558) predicted using hexExon; MAL3P2.15 (PFC0230c), Hypothetical protein len: 3979 aa [Plasmodium falciparum]	9.2
706	7243081	gi 7243081 dbj BAA92588.1  (AB037771) KIAA1350 protein [Homo sapiens]	1E-79
707	7496384	gi 7496384 pir T33266 hypothetical protein C24B9.10 - Caenorhabditis elegans gb AAC19256.1  (AF068709) Hypothetical protein C24B9.10 [Caenorhabditis elegans]	5.4
708	7492007	gi 7492007 pir T41680 hypothetical protein SPCP1E11.01c - fission yeast (Schizosaccharomyces pombe) emb CAB54860.1  (AL117183) hypothetical protein [Schizosaccharomyces pombe]	4.1
709	14758507	gi 14758507 ref XP_044768.1  similar to death receptor 6 (H. sapiens) [Homo sapiens]	0.031
710	6513925	gi 6513925 gb AAF14829.1 AC011664_11 (AC011664) unknown protein [Arabidopsis thaliana]	0.83
713	6434714	gi 6434714 emb CAB61161.1  (AL132973) putative membrane protein. [Streptomyces coelicolor A3(2)]	1.2
714	8810476	gi 8810476 gb AAF80137.1 AC024174_19 (AC024174) Contains similarity to a hypothetical protein F24K9.13 gi 6006885 from Arabidopsis thaliana gb AC008153 and contains multiple PPR PF01535 repeats	0.22
719	9626839	gi 9626839 ref NP_041109.1  ORF 18 [ictalurid herpesvirus 1] sp Q00120 VG18_HSVI1 HYPOTHETICAL GENE 18 PROTEIN pir A36788 hypothetical protein ORF18 - ictalurid herpesvirus 1 (strain auburn 1) gb AAA88121.1  (M75136) ORF 18 [ictalurid herpesvirus 1]	9.2
723	15004903	gi 15004903 gb AAK77203.1 AC006622_3 (AC006622) Hypothetical protein C52D10.12 [Caenorhabditis elegans]	2.4
724	6677663	gi 6677663 ref NP_033047.1  retinoic acid induced 1 [Mus musculus] pir T30250 GT1 protein - mouse dbj BAA06184.1  (D29801) Unknown [Mus musculus] prf 2123391A GT1 gene [Mus musculus]	0.12



Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
755	7498881	gi 7498881 pir T20748 hypothetical protein F11A5.2 - <i>Caenorhabditis elegans</i> emb CAB07355.1  (Z92830) contains similarity to Pfam domain: PF01604 (7TM chemoreceptor), Score=428.7, E-value=1.7e-125, N=1 [ <i>Caenorhabditis elegans</i> ]	6.4
756	1378135	gi 1378135 gb AAB02606.1  (U58466) putative fibroblast growth factor receptor 1-like protein; one of three possible open reading frames in the sequence [ <i>Rattus norvegicus</i> ]	5.1
758	7444901	gi 7444901 pir B71630 hypothetical protein RP702 - <i>Rickettsia prowazekii</i> emb CAA15138.1  (AJ235273) unknown [ <i>Rickettsia prowazekii</i> ]	2.2
759	12854427	gi 12854427 dbj BAB30025.1  (AK015906) putative [ <i>Mus musculus</i> ]	6.6
763	4185892	gi 4185892 emb CAA21831.1  (AL033125) 1-evidence=predicted by content~1-method=genefinder;084~1-evidence_end~2-evidence=predicted by match~2-match_accession=SWISS-PROT:P38205~2-match_description=HYPOTHETICAL 77.9 KD PROTEIN IN RRN10-MCM2 INTERGENIC REGION.~2-match_species=SACCHA>	9.1
766	14725855	gi 14725855 ref XP_038865.1  similar to hypothetical protein PRO2822 ( <i>H. sapiens</i> ) [ <i>Homo sapiens</i> ]	9.2
770	7582302	gi 7582302 gb AAF64271.1 AF208857_1 (AF208857) BM-015 [ <i>Homo sapiens</i> ]	8E-13
772	6594283	gi 6594283 dbj BAA88419.1  (AB016615) hydrophobic transmembrane protein [ <i>Staphylococcus aureus</i> ]	1.7
783	12597803	gi 12597803 gb AAG60115.1 AC073178_26 (AC073178) hypothetical protein [ <i>Arabidopsis thaliana</i> ]	0.62
784	8777303	gi 8777303 dbj BAA96893.1  (AB018112) serine carboxypeptidase [ <i>Arabidopsis thaliana</i> ]	1.2
785	10045258	gi 10045258 emb CAC07930.1  (AJ228487) cytochrome c oxidase subunit 3 [ <i>Acanthogammarus godlewskii</i> ]	1.5
786	1794167	gi 1794167 dbj BAA11217.1  (D78137) unnamed protein product [ <i>Vibrio parahaemolyticus</i> ]	9.7
790	12835698	gi 12835698 dbj BAB23329.1  (AK004489) putative [ <i>Mus musculus</i> ]	8.1



Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
819	2613090	gi 2613090 gb AAB84279.1  (AF030317) OmpR [Proteus vulgaris]	1.7
821	2494232	gi 2494232 sp Q62814 E2F5_RAT TRANSCRIPTION FACTOR E2F5 (E2F-5) gb AAB00180.1  (U31668) E2F-5 [Rattus norvegicus]	7.8
822	14729752	gi 14729752 ref XP_036388.1  hypothetical protein MGC5297 [Homo sapiens]	6.7
825	7024427	gi 7024427 emb CAA87594.2  (Z47547) Pwi=orf234.1;Mpo=orf244;Angio=orfx~no ATG start codon [Chondrus crispus]	8
833	11691811	gi 11691811 emb CAC11114.1  (AL121893) bA189K21.6 (Sec23 (S. cerevisiae) homolog B) [Homo sapiens]	5.6
834	117704	gi 117704 sp P18246 CXA1_BOVIN GAP JUNCTION ALPHA-1 PROTEIN (CONNEXIN 43) (CX43) (VASCULAR SMOOTH MUSCLE CONNEXIN 43) pir A36623 gap junction protein Cx43 - bovine gb AAA30459.1  (J05535) vascular smooth muscle connexin43 [Bos taurus]	9.2
835	1170606	gi 1170606 sp P43188 KADC_MAIZE ADENYLATE KINASE, CHLOROPLAST (ATP-AMP TRANSPHOSPHORYLASE) pir S45634 adenylate kinase (EC 2.7.4.3), chloroplast - maize pdb 1ZAK A Chain A, Adenylate Kinase From Maize In Complex With The Inhibitor P1,P5-Bis(Adenosine-5'-)pentaphosphate (Ap5a) pdb 1ZAK B Chain B, Adenylate Kinase From Maize In Complex With The Inhibitor P1,P5-Bis(Adenosine-5'-)pentaphosphate (Ap5a)	0.0000001
836	7661750	gi 7661750 ref NP_054866.1  HSPC047 protein [Homo sapiens] gb AAF29019.1 AF161532_1 (AF161532) HSPC047 [Homo sapiens]	5E-28
838	13815530	gi 13815530 gb AAK42398.1  (AE006828) Transport protein, hypothetical [Sulfolobus solfataricus]	5
839	14771844	gi 14771844 ref XP_045585.1  hypothetical protein FLJ11085 [Homo sapiens] emb CAB91047.2  (AL109935) dJ1022P6.2 (KIAA1434) [Homo sapiens]	0.089
843	4007786	gi 4007786 emb CAA51374.1  (X72850) acetyl CoA acetyltransferase [Sphingomonas sp.]	4.6



Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
847	9968471	gi 9968471 emb CAC06698.1  (AJ275988) Kruppel like factor [Mus musculus]	6.2
848	7499805	gi 7499805 pir T21337 hypothetical protein F25D7.1 - Caenorhabditis elegans emb CAB01696.1  (Z78418) cDNA EST yk60g6.3 comes from this gene~cDNA EST yk60g6.5 comes from this gene~cDNA EST yk156b10.3 comes from this gene~cDNA EST yk156b10.5 comes from this gene~cDNA EST yk399f2.3 comes from this gene~cDNA EST yk399f2.5 comes from this gene~cDN>	7.1
849	6581093	gi 6581093 gb AAF18453.1 AF205599_1 (AF205599) transposase-like protein [Mus musculus]	4.4
853	13651256	gi 13651256 ref XP_015436.1  chloride channel 4 [Homo sapiens] ref XP_045758.1  chloride channel 4 [Homo sapiens] ref XP_045756.1  chloride channel 4 [Homo sapiens] ref XP_045757.1  chloride channel 4 [Homo sapiens] dbj BAA77327.1  (AB019432) chloride channel protein 4 [Homo sapiens] gb AAD50981.1 AF170492_1 (AF170492) chloride channel CLC4 [Homo sapiens]	2.3
854	336159	gi 336159 gb AAA46774.1  (M90520) polymerase protein [Woodchuck hepatitis B virus]	3.2
861	8979124	gi 8979124 dbj BAA98959.1  (AP002547) CT651 hypothetical protein [Chlamydophila pneumoniae J138]	0.76
863	4758712	gi 4758712 ref NP_004659.1  alpha-glucosidase; brush border hydrolase [Homo sapiens] sp O43451 MGA_HUMAN MALTASE-GLUCOAMYLASE, INTESTINAL [INCLUDES: MALTASE (ALPHA-GLUCOSIDASE); GLUCOAMYLASE (GLUCAN 1,4-ALPHA-GLUCOSIDASE)] gb AAC39568.1  (AF016833) maltase-glucoamylase [Homo sapiens]	0.1
864	13812050	gi 13812050 ref NP_113184.1  hypothetical protein [Guillardia theta] gb AAK39752.1 AF083031_109 (AF083031) hypothetical protein [Guillardia theta]	4.3
867	10726408	gi 10726408 gb AAF54394.2  (AE003683) CG9381 gene product [Drosophila melanogaster]	5.5

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
870	7299899	gi 7299899 gb AAF55074.1  (AE003705) CG7987 gene product [alt 1] [Drosophila melanogaster] gb AAF55075.1  (AE003705) CG7987 gene product [alt 2] [Drosophila melanogaster]	9.7
872	6979325	gi 6979325 gb AAF34418.1 AF172282_7 (AF172282) putative phosphatidylinositol 4-kinase [Oryza sativa]	4.8
873	13699930	gi 13699930 dbj BAB41229.1  (AP003129) conserved hypothetical protein [Staphylococcus aureus subsp. aureus N315] dbj BAB56175.1  (AP003358) conserved hypothetical protein [Staphylococcus aureus subsp. aureus Mu50]	3.7
877	6841256	gi 6841256 gb AAF28981.1 AF161421_1 (AF161421) HSPC303 [Homo sapiens]	7E-64
879	2459878	gi 2459878 gb AAC40459.1  (AF005734) glycoprotein precursor [Marburg virus]	2.5
880	14759292	gi 14759292 ref XP_006700.2  checkpoint with forkhead and ring finger domains [Homo sapiens] gb AAF91084.1 AF170724_1 (AF170724) cell cycle checkpoint protein CHFR [Homo sapiens]	0.000000002
886	141164	gi 141164 sp P19297 YORM_TTV1 HYPOTHETICAL 38.6 KD PROTEIN emb CAA32993.1  (X14855) URF (352 AA) [Thermoproteus tenax virus 1]	2.2
889	1755061	gi 1755061 gb AAB50394.1  (U62737) photosystem I subunit XI [Synechococcus sp. PCC 7942]	3.6
890	7464739	gi 7464739 pir G71920 hypothetical protein jhp0518 - Helicobacter pylori (strain J99) gb AAD06099.1  (AE001485) putative [Helicobacter pylori J99]	7.6
891	14141161	gi 14141161 ref NP_004492.2  heterogeneous nuclear ribonucleoprotein U, isoform b; hnRNP U protein; scaffold attachment factor A; p120 nuclear protein [Homo sapiens] gb AAH03367.1 AAH03367 (BC003367) heterogeneous nuclear ribonucleoprotein U (scaffold attachment factor A) [Homo sapiens] gb AAH03621.1 AAH03621 (BC003621) heterogeneous nuclear ribonucleoprotein U (scaffold attachment factor A) [Homo sapiens]	6.9
892	7649887	gi 7649887 dbj BAA94165.1  (AP000422) tail fiber protein [Escherichia coli O157:H7]	0.63

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
901	7496871	gi 7496871 pir T19650 hypothetical protein C32H11.7 - Caenorhabditis elegans emb CAB05141.1  (Z82260) cDNA EST yk576f6.3 comes from this gene [Caenorhabditis elegans]	4.6
905	13400109	gi 13400109 gb AAK21974.1  (U77931) rRNA promoter binding protein [Rattus norvegicus]	0.003
918	13235458	gi 13235458 emb CAC33751.1  (AJ293322) ProP2 protein [Rickettsia typhi]	4.1
919	7292165	gi 7292165 gb AAF47577.1  (AE003472) CG12023 gene product [Drosophila melanogaster]	0.25
920	12831207	gi 12831207 ref NP_075579.1  gamma-aminobutyric acid (GABA-A) receptor, subunit epsilon [Rattus norvegicus] gb AAF70383.1 AF189262_1 (AF189262) GABA-A receptor epsilon-like subunit [Rattus norvegicus]	4.5
926	10765285	gi 10765285 gb AAG22971.1 AF183431_1 (AF183431) inhibitor of apoptosis protein 2 [Rattus norvegicus]	4.2
927	2832268	gi 2832268 gb AAC15477.1  (AF043233) Caco-2 oligopeptide transporter [Homo sapiens]	5.1
928	6179898	gi 6179898 gb AAF05702.1 AF190129_1 (AF190129) Na+/K+/2Cl- cotransporter [Callinectes sapidus]	6.1
931	12644035	gi 12644035 sp Q9Z8M1 IF2_CHLPN TRANSLATION INITIATION FACTOR IF-2 pir E81576 translation initiation factor 2 CP0440 [imported] - Chlamydomonas reinhardtii (strain AR39) gb AAF38279.1  (AE002205) translation initiation factor 2 [Chlamydomonas reinhardtii AR39] dbj BAA98527.1  (AP002546) initiation factor-2 [Chlamydomonas reinhardtii J138]	0.91
932	10956362	gi 10956362 ref NP_052811.1  pXO1-115 [Bacillus anthracis] pir C59105 hypothetical protein pXO1-115 - Bacillus anthracis virulence plasmid pXO1 gb AAD32419.1 AAD32419 (AF065404) pXO1-115 [Bacillus anthracis] gb AAD41347.1 AF150965_1 (AF150965) resolvase X [Bacillus anthracis]	1.9
933	13814214	gi 13814214 gb AAK41294.1  (AE006722) Conserved hypothetical protein [Sulfolobus solfataricus]	0.99

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
940	6320195	gi 6320195 ref NP_010275.1  Ydl009cp [Saccharomyces cerevisiae] pir  S52510 probable membrane protein YDL009c - yeast (Saccharomyces cerevisiae) emb CAA88350.1  (Z48432) unknown [Saccharomyces cerevisiae] emb CAA98568.1  (Z74059) ORF YDL009c [Saccharomyces cerevisiae]	7
942	10181130	gi 10181130 ref NP_065586.1  acid sphingomyelinase-like phosphodiesterase 3a [Mus musculus] emb CAA69329.1  (Y08135) acid sphingomyelinase-like phosphodiesterase [Mus musculus]	6E-84
943	13124718	gi 13124718 sp P54358 DPOD_DROME DNA POLYMERASE DELTA CATALYTIC SUBUNIT gb AAF49555.1  (AE003529) DNAPol-delta gene product [Drosophila melanogaster]	2.8
946	2258300	gi 2258300 gb AAB63269.1  (AF001783) AgrC [Staphylococcus aureus]	1.9
947	7460037	gi 7460037 pir  T13431 hypothetical protein T17A13.20 Arabidopsis thaliana emb CAB79678.1  (AL161574) hypothetical protein [Arabidopsis thaliana]	3.4
948	7494291	gi 7494291 pir  E71616 hypothetical protein PFB0365w malaria parasite (Plasmodium falciparum) gb AAC71862.1  (AE001390) hypothetical protein [Plasmodium falciparum]	1.9
950	1707627	gi 1707627 emb CAA96381.1  (Z71701) cytochrome oxidase subunit III [Euhadra herklotsi]	9.1
952	6739602	gi 6739602 gb AAF27330.1  (AF178534) talin [Homo sapiens]	1E-14

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
954	7498956	gi 7498956 pir T20804 hypothetical protein F12F6.1 - Caenorhabditis elegans emb CAA97791.1  (Z73425) cDNA EST yk30a8.3 comes from this gene~cDNA EST yk12d11.5 comes from this gene~cDNA EST yk30a8.5 comes from this gene~cDNA EST yk117g9.3 comes from this gene~cDNA EST yk113h11.5 comes from this gene~cDNA EST yk117g9.5 comes from this gene~cDNA> emb CAA97796.1  (Z73426) cDNA EST yk30a8.3 comes from this gene~cDNA EST yk12d11.5 comes from this gene~cDNA EST yk30a8.5 comes from this gene~cDNA EST yk117g9.3 comes from this gene~cDNA EST yk113h11.5 comes from this gene~cDNA EST yk117g9.5 comes from this gene~cDNA>	6.6
955	9631417	gi 9631417 ref NP_048325.1  ORF MSV254 leucine rich repeat gene family protein, similar to Amsacta moorei entomopoxvirus Q3 ORF SW:P28854 [Melanoplus sanguinipes entomopoxvirus] pir T28415 ORF MSV254 leucine rich repeat gene family protein - Melanoplus sanguinipes entomopoxvirus gb AAC97730.1  (AF063866) ORF MSV254 leucine rich repeat gene family protein, similar to Amsacta moorei entomopoxvirus Q3 ORF SW:P28854 [Melanoplus sanguinipes entomopoxvirus]	2.1
956	7160126	gi 7160126 emb CAB76312.1  (AL158060) putative membrane protein. [Streptomyces coelicolor A3(2)]	0.25
959	1203965	gi 1203965 gb AAA89173.1  (L42379) bone-derived growth factor [Homo sapiens]	1.4
960	585147	gi 585147 sp P38094 FLUG_EMENI FLUG PROTEIN pir A53186 fluG protein - Emericella nidulans gb AAC37414.1  (L27817) FluG [Emericella nidulans]	5.4
963	11352695	gi 11352695 pir D83270 transcription-repair coupling protein Mfd PA3002 [imported] - Pseudomonas aeruginosa (strain PAO1) gb AAG06390.1 AE004725_3 (AE004725) transcription-repair coupling protein Mfd [Pseudomonas aeruginosa]	1.3

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
964	119777	gi 119777 sp P16291 FA9_SHEEP COAGULATION FACTOR IX (CHRISTMAS FACTOR) pir I47078 coagulation factor IXa (EC 3.4.21.22) - sheep (fragment) gb AAA31520.1  (M26233) factor IX [Ovis aries]	8.2
965	7473507	gi 7473507 pir F75587 probable glycosyltransferase - Deinococcus radiodurans (strain R1) gb AAF12451.1 AE001863_76 (AE001863) glycosyltransferase, putative [Deinococcus radiodurans]	0.24
967	2494130	gi 2494130 gb AAB80639.1  (AC002376) Contains similarity to Glycine SRC2 (gb AB000130). [Arabidopsis thaliana]	5.2
972	10728660	gi 10728660 gb AAF52603.2  (AE003620) CG8683 gene product [Drosophila melanogaster]	6E-12
980	7500037	gi 7500037 pir T34063 chromosome segregation protein smc1 F28B3.7 [similarity] - Caenorhabditis elegans gb AAK21378.1  (AF003136) contains similarity to ATP synthase subunit B [Caenorhabditis elegans]	0.68
981	7298917	gi 7298917 gb AAF54122.1  (AE003675) CG10272 gene product [Drosophila melanogaster]	5.9
983	1170115	gi 1170115 sp P46430 GTT1_MANSE GLUTATHIONE S-TRANSFERASE 1 (GST CLASS-THETA) gb AAA92880.1  (L32091) glutathione S-transferase [Manduca sexta]	7.1
985	10864490	gi 10864490 gb AAG24203.1  (AF022981) Hypothetical protein W03F9.6 [Caenorhabditis elegans]	5.3
987	105400	gi 105400 pir A35648 B-cell adhesion protein CD22 alpha splice form precursor - human emb CAA36988.1  (X52785) CD22 antigen [Homo sapiens] prf 1608208A B cell antigen DC22 [Homo sapiens]	6
989	14750376	gi 14750376 ref XP_012394.3  myosin IXA [Homo sapiens]	3.9
990	6324560	gi 6324560 ref NP_014629.1  Y013w-ap [Saccharomyces cerevisiae] pir S78736 protein YOL013w-a - yeast (Saccharomyces cerevisiae) delta remnant	9.3
991	7290503	gi 7290503 gb AAF45956.1  (AE003431) CG3527 gene product [Drosophila melanogaster]	7.6

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
994	9964623	gi 9964623 ref NP_064753.1  RP DNA pol [Roseophage SIO1] gb AAG02598.1 AF189021_17 (AF189021) Roseophage SIO1 complete genome	3.5
996	2769538	gi 2769538 emb CAA11217.1  (AJ223279) voltage-sensitive sodium channel [Plutella xylostella]	7.6
998	9628506	gi 9628506 ref NP_043384.1  regulatory protein E2 [Human papillomavirus type 29] sp P50772 VE2 HPV29 REGULATORY PROTEIN E2 gb AAA79432.1  (U31784) regulatory protein E2 [Human papillomavirus type 29]	6.2
999	6566147	gi 6566147 dbj BAA04745.2  (D21203) large Forked protein [Drosophila melanogaster]	0.085
1002	11346920	gi 11346920 pir H81390 probable integral membrane protein Cj0461c [imported] - Campylobacter jejuni (strain NCTC 11168) emb CAB75099.1  (AL139075) putative integral membrane protein [Campylobacter jejuni]	1.5
1005	9294038	gi 9294038 dbj BAB01995.1  (AB020746) gene_id:MOB24.1~unknown protein [Arabidopsis thaliana]	9.8
1006	4505067	gi 4505067 ref NP_002349.1  MAD2-like 1; mitotic arrest deficient, yeast, homolog-like 1 [Homo sapiens] sp Q13257 MD21_HUMAN MITOTIC SPINDLE ASSEMBLY CHECKPOINT PROTEIN MAD2A (MAD2-LIKE 1) (HSMAD2) pir G01942 mitotic feedback control protein Madp2 homolog - human gb AAC52060.1  (U31278) mitotic feedback control protein Madp2 homolog [Homo sapiens] gb AAC50781.1  (U65410) Mad2 [Homo sapiens] emb CAA03943.1  (AJ000186) MAD2 [Homo sapiens] gb AAH00356.1 AAH00356 (BC000356) MAD2 (mitotic arrest deficient, yeast, homolog)-like 1 [Homo sapiens] gb AAH05945.1 AAH05945 (BC005945) MAD2 (mitotic arrest deficient, yeast, homolog)-like 1 [Homo sapiens] gb AAK38174.1  (AF202273) MAD2-like protein 1 [Homo sapiens]	0.000005

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1010	13994140	gi 13994140 ref NP_038928.1  antigen p97 (melanoma associated) identified by monoclonal antibodies 133.2 and 96.5 [Mus musculus] dbj BAA86655.1  (AB024336) membrane-bound transferrin-like protein p97 [Mus musculus] dbj BAB41139.1  (AB047799) membrane-bound transferrin-like protein [Mus musculus]	4.1
1011	11465559	gi 11465559 ref NP_045049.1  unknown [Cyanidium caldarium] gb AAF12997.1 AF022186_169 (AF022186) unknown [Cyanidium caldarium]	1.8
1012	13421288	gi 13421288 gb AAK22158.1  (AE005691) TonB-dependent receptor [Caulobacter crescentus]	0.65
1013	6978481	gi 6978481 ref NP_036905.1  a-kinase anchoring protein [Rattus norvegicus] sp Q62924 AK11_RAT A KINASE ANCHOR PROTEIN 11 (PROTEIN KINASE A ANCHORING PROTEIN 11) (PRKA11) (A KINASE ANCHOR PROTEIN 220 KDA) (AKAP 220) pir T42732 A-kinase anchoring protein AKAP 220 - rat gb AAB06559.1  (U48288) AKAP 220 [Rattus norvegicus]	3
1015	7498137	gi 7498137 pir T31694 hypothetical protein D1065.2 - Caenorhabditis elegans	7.4
1017	9944230	gi 9944230 emb CAC05416.1  (AJ400866) membrane tyrosine phosphatase [Bos indicus]	7
1023	14520862	gi 14520862 ref NP_126337.1  hypothetical protein [Pyrococcus abyssi] pir G75106 hypothetical protein PAB0444 - Pyrococcus abyssi (strain Orsay) emb CAB49568.1  (AJ248285) hypothetical protein [Pyrococcus abyssi]	9.7
1025	11290247	gi 11290247 pir D82039 conserved hypothetical protein VC2740 [imported] - Vibrio cholerae (group O1 strain N16961) gb AAF95879.1  (AE004339) conserved hypothetical protein [Vibrio cholerae]	8.2
1027	12484269	gi 12484269 gb AAG54048.1 AF224607_4 (AF224607) NADH dehydrogenase subunit 4 [Propithecus verreauxi deckeni]	7
1028	14329703	gi 14329703 emb CAC40662.1  (AJ292926) anaerobic (class III) ribonucleotide reductase large subunit chain [Staphylococcus aureus]	1.7



Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1037	2636683	gi 2636683 gb AAC06264.1  (U66333) pol [Schistosoma mansoni]	5.2
1039	6016240	gi 6016240 sp O02100 HOP1_CAEEL INTEGRAL MEMBRANE PROTEIN HOP-1 pir  T15184 presenilin-beta homolog - Caenorhabditis elegans pir  T42237 presenilin-beta homolog - Caenorhabditis elegans gb AAB52948.1  (AF000265) Hypothetical protein C18E3.8 [Caenorhabditis elegans] gb AAB84394.1  (AF021905) presenilin [Caenorhabditis elegans]	8.5
1040	10047173	gi 10047173 dbj BAB13380.1  (AB046774) KIAA1554 protein [Homo sapiens]	8.4
1043	14089928	gi 14089928 emb CAC13687.1  (AL445564) HEMOLYSIN C [Mycoplasma pulmonis]	4.8
1045	7469269	gi 7469269 pir  S77245 bioY protein - Synechocystis sp. (strain PCC 6803) dbj BAA17579.1  (D90907) BioY protein [Synechocystis sp. PCC 6803]	5.6
1046	10140780	gi 10140780 gb AAG13610.1 AC078840_1 (AC078840) hypothetical protein [Oryza sativa]	2.2
1050	7496756	gi 7496756 pir  T19593 hypothetical protein C31A11.3 - Caenorhabditis elegans emb CAB05685.1  (Z83218) contains similarity to Pfam domain: PF01838 (Domain of unknown function), Score=506.2, E-value=5.4e-154, N=2 [Caenorhabditis elegans]	4.1
1052	7500420	gi 7500420 pir  T32834 hypothetical protein F33H12.1 - Caenorhabditis elegans gb AAB95002.1  (AF040649) Hypothetical protein F33H12.1 [Caenorhabditis elegans]	4
1054	14736828	gi 14736828 ref XP_032481.1  hypothetical protein XP_032481 [Homo sapiens]	5.5
1056	7290674	gi 7290674 gb AAF46122.1  (AE003436) CG4320 gene product [Drosophila melanogaster]	4.7
1060	14970757	gi 14970757 emb CAC44464.1  (AJ313506) CtxX protein [Salmonella typhimurium]	5.5
1062	4115497	gi 4115497 dbj BAA36391.1  (AB010426) AL1 like protein [Phytoplasma sp.]	3.4
1064	111816	gi 111816 pir  S21348 probable pol polyprotein-related protein 4 - rat emb CAA37647.1  (X53581) ORF4 [Rattus norvegicus]	6.4

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1067	14149940	gi 14149940 ref NP_115610.1  hypothetical protein FLJ23059 [Homo sapiens] dbj BAB15536.1  (AK026712) unnamed protein product [Homo sapiens]	8E-34
1072	6321761	gi 6321761 ref NP_011837.1  Yhl026cp [Saccharomyces cerevisiae] sp P38740 YHC6_YEAST HYPOTHETICAL 30.7 KD PROTEIN IN RIM1-SNF6 INTERGENIC REGION PRECURSOR pir  S48942 hypothetical protein YHL026c - yeast (Saccharomyces cerevisiae) gb AAB65062.1  (U11583) YHL026c gene product [Saccharomyces cerevisiae]	0.26
1076	5932366	gi 5932366 gb AAD56919.1 AF180145_11 (AF180145) hypothetical protein; zm12orf5 [Zymomonas mobilis]	7.2
1084	7106864	gi 7106864 gb AAF36157.1 AF151071_1 (AF151071) HSPC237 [Homo sapiens]	8.3
1087	1173846	gi 1173846 gb AAA86616.1  (U39455) envelope glycoprotein precursor [Crimean-Congo hemorrhagic fever virus]	6.1
1092	87765	gi 87765 pir  JU0033 hypothetical L1 protein (third intron of gene TS) - human prf  1510254A L1 repetitive element ORF [Homo sapiens]	2
1096	9506813	gi 9506813 ref NP_062184.1  Inositol polyphosphate-5-phosphatase [Rattus norvegicus] gb AAB40610.1  (U55192) inositol polyphosphate 5' phosphatase Ship [Rattus norvegicus]	3.3
1101	11496734	gi 11496734 ref NP_045511.1  B. burgdorferi predicted coding region BBH18 [Borrelia burgdorferi] pir  C70237 hypothetical protein BBH18 - Lyme disease spirochete plasmid H/lp28-3 gb AAC66022.1  (AE000784) B. burgdorferi predicted coding region BBH18 [Borrelia burgdorferi]	7
1102	9630723	gi 9630723 ref NP_047269.1  putative virulence determinant Vir [Mycoplasma arthritidis bacteriophage MAV1] gb AAC33779.1  (AF074945) putative virulence determinant Vir [Mycoplasma arthritidis bacteriophage MAV1]	9.9

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1107	3638957	gi 3638957 gb AAC36301.1  (AC004877) sco-spondin-mucin-like; similar to P98167 (PID:g1711548); details of intron/exon structure uncertain [Homo sapiens]	3.3
1110	14725582	gi 14725582 ref XP_002477.3  hypothetical protein FLJ10829 [Homo sapiens]	0.85
1112	7298126	gi 7298126 gb AAF53364.1  (AE003642) BG:DS00180.10 gene product [Drosophila melanogaster]	8.6
1120	15011489	gi 15011489 gb AAK77584.1 AF396436_24 (AF396436) heme maturase [Tetrahymena thermophila]	0.077
1121	7500306	gi 7500306 pir  T21638 hypothetical protein F32B4.1 - Caenorhabditis elegans emb CAB04238.1  (Z81522) predicted using Genefinder [Caenorhabditis elegans]	5.6
1123	170156	gi 170156 gb AAA73078.1  (M73688) [Sorghum bicolor endosperm tissue mRNA, complete CDS.], gene product prf 1808331A gamma kafirin [Sorghum bicolor]	0.41
1125	348951	gi 348951 gb AAC78248.1  (M77194) gag [Rat leukemia virus]	4.2
1127	14583262	gi 14583262 ref NP_127506.1  replicase ORF1ab polyprotein [Equine arteritis virus] emb CAA69187.2  (Y07862) replicase ORF1b polyprotein [Cloning vector pEAV030] emb CAC42775.2  (X53459) replicase ORF1b polyprotein [Equine arteritis virus]	0.79
1128	6322140	gi 6322140 ref NP_012215.1  involved in filamentous growth; Dfg10p [Saccharomyces cerevisiae] sp P40526 YIE9_YEAST HYPOTHETICAL 30.3 KD PROTEIN IN RPL34B-SYG1 INTERGENIC REGION pir S48430 probable membrane protein YIL049w - yeast (Saccharomyces cerevisiae) emb CAA86173.1  (Z38060) orf, len: 253, CAI: 0.11 [Saccharomyces cerevisiae]	7.6
1129	14779404	gi 14779404 ref XP_008099.4  integrin alpha L precursor [Homo sapiens]	0.004

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1136	13928898	gi 13928898 ref NP_113837.1  killer cell lectin-like receptor subfamily G, member 1 [Rattus norvegicus] pir  I59421 mast cell function associated antigen - rat emb CAA56208.1  (X79812) mast cell function associated antigen [Rattus norvegicus] emb CAA65829.1  (X97191) MAFA protein [Rattus norvegicus]	5
1138	11467057	gi 11467057 ref NP_042533.1  NADH dehydrogenase, subunit 4 [Acanthamoeba castellanii] sp Q37375 NU4M_ACACA NADH-UBIQUINONE OXIDOREDUCTASE CHAIN 4 pir  S53834 NADH dehydrogenase (ubiquinone) (EC 1.6.5.3) chain 4 - Acanthamoeba castellanii mitochondrion gb AAD11826.1  (U12386) NADH dehydrogenase, subunit 4 [Acanthamoeba castellanii]	0.63
1140	7331848	gi 7331848 gb AAF60536.1  (AC024772) contains similarity to Pfam family PF00569 (Zinc finger present in dystrophin, CBP/p300), score=30.4, E=4.3e-05, N=1 [Caenorhabditis elegans]	4.5
1144	12725042	gi 12725042 gb AAK06095.1 AE006429_13 (AE006429) UNKNOWN PROTEIN [Lactococcus lactis subsp. lactis]	0.82
1146	13122173	gi 13122173 emb CAC32349.1  (AL583945) putative bifunctional protein (histidine kinase and regulator) [Streptomyces coelicolor]	1.3
1147	13925661	gi 13925661 gb AAK49407.1 AF261233_1 (AF261233) sodium/calcium exchanger protein [Mus musculus]	5.3
1149	6552484	gi 6552484 gb AAF16411.1 AF038572_1 (AF038572) jagged2 [Mus musculus]	0.83
1154	13489284	gi 13489284 gb AAF16898.2 AF168614_1 (AF168614) HMG-box transcription factor Sox17 [Danio rerio]	9.8
1155	1170115	gi 1170115 sp P46430 GTT1_MANSE GLUTATHIONE S-TRANSFERASE 1 (GST CLASS-THETA) gb AAA92880.1  (L32091) glutathione S-transferase [Manduca sexta]	7.8
1159	13377412	gi 13377412 gb AAK20674.1 AF316639_9 (AF316639) Wzy [Streptococcus pneumoniae] gb AAK74527.1  (AE007347) hypothetical protein [Streptococcus pneumoniae]	4.1

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1163	7298868	gi 7298868 gb AAF54075.1  (AE003673) CG1105 gene product [ <i>Drosophila melanogaster</i> ]	5.5
1164	10178202	gi 10178202 dbj BAB11626.1  (AB016875) gene_id:K9D7.13~unknown protein [ <i>Arabidopsis thaliana</i> ]	9.3
1166	7494379	gi 7494379 pir C71610 probable membrane associated protein PFB0615c - malaria parasite ( <i>Plasmodium falciparum</i> ) gb AAC71912.1  (AE001406) predicted membrane associated protein [ <i>Plasmodium falciparum</i> ]	6.5
1170	12408633	gi 12408633 ref NP_074924.1  cytochrome c oxidase subunit 1 [ <i>Podospira anserina</i> ] sp P20681 COX1_PODAN CYTOCHROME C OXIDASE POLYPEPTIDE I pir A48327 cytochrome-c oxidase (EC 1.9.3.1) chain I - <i>Podospira anserina</i> mitochondrion emb CAA38777.1  (X55026) cytochrome oxidase c [ <i>Podospira anserina</i> ]	3.1
1173	2144233	gi 2144233 pir JC5010 nucleotide-binding protein F - <i>Methanosarcina mazei</i> emb CAA62802.1  (X91502) ABC transporter [ <i>Methanosarcina mazei</i> ]	6.9
1174	10581460	gi 10581460 gb AAG20195.1  (AE005096) Vng2034h [ <i>Halobacterium</i> sp. NRC-1]	0.15
1176	13652647	gi 13652647 ref XP_007000.3  solute carrier family 6 (neurotransmitter transporter, betaine/GABA), member 12 [ <i>Homo sapiens</i> ] ref XP_029976.1  solute carrier family 6 (neurotransmitter transporter, betaine/GABA), member 12 [ <i>Homo sapiens</i> ]	9
1181	9631326	gi 9631326 ref NP_048159.1  ORF MSV088 hypothetical protein [ <i>Melanoplus sanguinipes</i> entomopoxvirus] pir T28249 ORF MSV088 hypothetical protein - <i>Melanoplus sanguinipes</i> entomopoxvirus gb AAC97639.1  (AF063866) ORF MSV088 hypothetical protein [ <i>Melanoplus sanguinipes</i> entomopoxvirus]	3.2
1184	13897920	gi 13897920 gb AAK48502.1 AF260966_1 (AF260966) IL-8 receptor [ <i>Oncorhynchus mykiss</i> ]	2.6
1185	12860694	gi 12860694 dbj BAB32022.1  (AK020187) putative [ <i>Mus musculus</i> ]	0.86
1187	6671484	gi 6671484 gb AAC49301.2  (U32444) phytochrome F [ <i>Lycopersicon esculentum</i> ]	3.4

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1191	11358531	gi 11358531 pir T51640 myb-related transcription factor MYB19 [imported] - Arabidopsis thaliana (fragment) gb AAC83590.1  (AF062868) putative transcription factor [Arabidopsis thaliana]	0.95
1192	88462	gi 88462 pir A27307 proline-rich phosphoprotein (gene PRH1, Db allele) - human	7.9
1193	7484909	gi 7484909 pir T06608 disease resistance protein homolog F16J13.80 - Arabidopsis thaliana emb CAB40942.1  (AL049638) putative disease resistance protein (TMV N-like) [Arabidopsis thaliana] emb CAB78244.1  (AL161533) putative disease resistance protein (TMV N-like) [Arabidopsis thaliana]	3.4
1195	7492269	gi 7492269 pir T39663 paired amphipathic helix, probable transcription regulator protein - fission yeast (Schizosaccharomyces pombe) emb CAA21310.1  (AL031856) putative transcriptional regulatory protein [Schizosaccharomyces pombe]	4.1
1197	134437	gi 134437 sp P13823 SERA_PLAFG SERINE-REPEAT ANTIGEN PROTEIN PRECURSOR (P126) (111 KDA ANTIGEN) pir A54505 serine-repeat antigen precursor - malaria parasite (Plasmodium falciparum) (strain FCR3) gb AAA29763.1  (J03993) serine repeat protein [Plasmodium falciparum] gb AAA16791.1  (J04000) serine-repeat antigen protein [Plasmodium falciparum] gb AAA74911.1  (U08113) serine repeat antigen [Plasmodium falciparum]	4.6
1202	12841678	gi 12841678 dbj BAB25308.1  (AK007856) putative [Mus musculus]	2E-31
1211	586120	gi 586120 sp Q07283 TRHY_HUMAN TRICHOHYALIN pir A45973 trichohyalin - human gb AAA65582.1  (L09190) trichohyalin [Homo sapiens]	9.8
1214	3122611	gi 3122611 sp O18417 A70A_DROSE ACCESSORY GLAND-SPECIFIC PEPTIDE 70A PRECURSOR (PARAGONIAL PEPTIDE B) emb CAA67791.1  (X99414) sex-peptide [Drosophila sechellia]	6.1
1215	2190464	gi 2190464 emb CAB09537.1  (Z96107) Uncx4.1 [Mus musculus]	7.6

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1216	153930	gi 153930 gb AAA27047.1  (M23007) NADPH-sulfite reductase hemoprotein component [Salmonella typhimurium]	1.3
1217	5091519	gi 5091519 dbj BAA78754.1  (AB023482) Hypothetical protein [Oryza sativa]	0.95
1219	9759203	gi 9759203 dbj BAB09740.1  (AB015476) heat shock transcription factor HSF30-like protein [Arabidopsis thaliana]	9.2
1224	1732073	gi 1732073 gb AAC50901.1  (U75308) TBP-associated factor [Homo sapiens]	0.13
1225	7505421	gi 7505421 pir T23399 hypothetical protein K07C10.1 - Caenorhabditis elegans emb CAA87375.1  (Z47074) similarity to transmembranous domains of the drosophila protein patched (Swiss Prot accession number P18502) [Caenorhabditis elegans]	3.4
1228	140791	gi 140791 sp P17369 YHR3_VACCV HYPOTHETICAL HOST RANGE 27.4 KDA PROTEIN pir WZVZA3 27.4K HindIII-C protein - vaccinia virus (strain WR) gb AAA69594.1  (M22812) unknown protein [Vaccinia virus]	4.6
1231	6831569	gi 6831569 sp O84098 IF2_CHLTR TRANSLATION INITIATION FACTOR IF-2 pir H71558 probable translation initiation factor IF-2 - Chlamydia trachomatis (serotype D, strain UW3/Cx) gb AAC67687.1  (AE001283) Initiation Factor-2 [Chlamydia trachomatis]	7.8
1243	12725042	gi 12725042 gb AAK06095.1 AE006429_13 (AE006429) UNKNOWN PROTEIN [Lactococcus lactis subsp. lactis]	0.91
1246	10178036	gi 10178036 dbj BAB11519.1  (AB005245) pectinesterase [Arabidopsis thaliana]	0.28
1249	7494298	gi 7494298 pir A71613 hypothetical protein PFB0530c - malaria parasite (Plasmodium falciparum) gb AAC71895.1  (AE001400) hypothetical protein [Plasmodium falciparum]	2.6
1253	14721018	gi 14721018 ref XP_051562.1  similar to agrin (H. sapiens) [Homo sapiens]	3.5
1255	6175163	gi 6175163 gb AAF04889.1 AC011437_4 (AC011437) unknown protein [Arabidopsis thaliana]	8.7

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1264	12320927	gi 12320927 gb AAG50592.1 AC083891_6 (AC083891) ABC transporter, putative [Arabidopsis thaliana]	9.5
1265	13375919	gi 13375919 ref NP_078940.1  hypothetical protein FLJ11838 [Homo sapiens] dbj BAB13931.1  (AK021900) unnamed protein product [Homo sapiens]	4.2
1274	9369395	gi 9369395 gb AAF87143.1 AC002423_8 (AC002423) T23E23.16 [Arabidopsis thaliana]	7.2
1275	7435789	gi 7435789 pir T06276 benzothiadiazole-induced protein (clone WCI-4) - wheat gb AAC49287.1  (U32430) thiol protease [Triticum aestivum]	5.4
1280	7497192	gi 7497192 pir T19833 hypothetical protein C38D9.3 - Caenorhabditis elegans emb CAB03949.1  (Z81481) C38D9.3 [Caenorhabditis elegans]	0.15
1284	14739967	gi 14739967 ref XP_035107.1  v-raf murine sarcoma viral oncogene homolog B1 [Homo sapiens]	1.9
1289	7463772	gi 7463772 pir F70103 signal peptidase I (lepB-1) homolog - Lyme disease spirochete gb AAC66422.1  (AE001117) signal peptidase I (lepB-1) [Borrelia burgdorferi]	0.22
1292	4580388	gi 4580388 gb AAD24366.1 AC007171_2 (AC007171) hypothetical protein [Arabidopsis thaliana]	5.5
1293	10437002	gi 10437002 dbj BAB14954.1  (AK024666) unnamed protein product [Homo sapiens]	0.000000002
1296	4493974	gi 4493974 emb CAB39033.1  (AL034559) hypothetical protein, PFC0930c [Plasmodium falciparum]	3.2
1301	482030	gi 482030 pir S40544 hypothetical protein - Escherichia coli dbj BAA01299.1  (D10483) IS1 hypothetical protein E-96(PIR:A04462) [Escherichia coli]	8.3
1306	4836719	gi 4836719 gb AAD30537.1 AF133256_2 (AF133256) envelope protein precursor [Friend mink cell focus-forming virus]	8.6
1307	12843929	gi 12843929 dbj BAB26168.1  (AK009250) putative [Mus musculus]	2.1
1308	10175999	gi 10175999 dbj BAB07095.1  (AP001518) lipopolysaccharide biosynthesis [Bacillus halodurans]	2.8



Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1310	14767733	gi 14767733 ref XP_030859.1  similar to TGF(beta)-induced transcription factor 2 (H. sapiens) [Homo sapiens]	1.5
1311	1351721	gi 1351721 sp Q10105 YAQ5_SCHPO PUTATIVE TRANSLATIONAL ACTIVATOR C18G6.05C (GCN1 HOMOLOG) pir  T37919 GCN1 homolog - fission yeast (Schizosaccharomyces pombe) emb CAA92385.1  (Z68198) GCN1 homologue [Schizosaccharomyces pombe]	0.48
1312	13376747	gi 13376747 ref NP_079428.1  hypothetical protein FLJ12660 [Homo sapiens] ref XP_017923.1  hypothetical protein FLJ12660 [Homo sapiens] dbj BAB14203.1  (AK022722) unnamed protein product [Homo sapiens]	0.000000003
1315	9453886	gi 9453886 dbj BAB03287.1  (AB045975) pro-alpha 1 type V/XI collagen [Pagrus major]	0.021
1320	11034630	gi 11034630 dbj BAB17154.1  (AP002868) hypothetical protein [Oryza sativa] dbj BAB55491.1  (AP002541) hypothetical protein [Oryza sativa]	0.49
1322	14727261	gi 14727261 ref XP_027313.1  hypothetical protein FLJ22351 [Homo sapiens] ref XP_027314.1  hypothetical protein FLJ22351 [Homo sapiens]	0.077
1327	2789430	gi 2789430 dbj BAA24380.1  (D30612) repressor protein [Homo sapiens]	0.97
1328	7497494	gi 7497494 pir  T19963 hypothetical protein C46C2.4 - Caenorhabditis elegans emb CAA92590.1  (Z68296) contains similarity to Pfam domain: PF00561 (alpha/beta hydrolase fold), Score=30.8, E-value=1e-05, N=1 [Caenorhabditis elegans]	0.2
1329	13129018	gi 13129018 ref NP_076956.1  hypothetical protein MGC3077 [Homo sapiens] ref XP_030116.1  hypothetical protein MGC3077 [Homo sapiens] gb AAC23790.1  (AC005154) similar to protein U28928 (PID:g861306) [Homo sapiens] gb AAH00625.1 AAH00625 (BC000625) Unknown (protein for MGC:3077) [Homo sapiens]	2E-89
1330	14647539	gi 14647539 gb AAK71916.1 AF332040_1 (AF332040) growth hormone receptor [Jaculus jaculus]	4.8

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1331	1584488	gi 1584488 prf  2123261AB chemosensory receptor [Caenorhabditis elegans]	0.68
1333	2326324	gi 2326324 emb CAB10936.1  (Z98264) cytochrome c oxidase subunit III [Anabaena sp.]	4.1
1334	7434912	gi 7434912 pir  H71934 phosphatidylglycerophosphate synthase - Helicobacter pylori (strain J99) gb AAD05990.1  (AE001475) PHOSPHATIDYLGLYCEROPHOSPHATE SYNTHASE [Helicobacter pylori J99]	5.9
1337	1335199	gi 1335199 emb CAA26919.1  (X03145) pot. ORF V [Homo sapiens]	5.2
1340	7440285	gi 7440285 pir  T07994 ribosomal protein S9 - Chlamydomonas reinhardtii chloroplast emb CAA74006.1  (Y13655) 30S ribosomal protein S9 [Chlamydomonas reinhardtii]	3
1341	8923088	gi 8923088 ref NP_060127.1  hypothetical protein FLJ20080 [Homo sapiens] ref XP_046636.1  hypothetical protein FLJ20080 [Homo sapiens] dbj BAA90936.1  (AK000087) unnamed protein product [Homo sapiens]	0.000000008
1345	6958206	gi 6958206 gb AAF32493.1 AF093132_1 (AF093132) kexin-like protease KEX1 [Pneumocystis carinii f. sp. muris]	2.3
1346	7496774	gi 7496774 pir  T32166 hypothetical protein C31B8.8 - Caenorhabditis elegans	2
1350	9366789	gi 9366789 emb CAB95551.1  (AL359782) hypothetical protein, CHR1.313. [Trypanosoma brucei]	2.4
1352	10175488	gi 10175488 dbj BAB06586.1  (AP001516) cation antiporter (Na <sup>+</sup> /Ca <sup>2+</sup> ) [Bacillus halodurans]	0.72
1354	1119230	gi 1119230 dbj BAA06595.1  (D31786) secretion protein Y [Acyrtosiphon kondoi endosymbiont]	8.5
1355	2897812	gi 2897812 dbj BAA24894.1  (AB010996) G2-G1 polyprotein precursor [tomato spotted wilt virus]	8.9
1357	13111586	gi 13111586 gb AAK12388.1 AF296094_1 (AF296094) polyprotein [Porcine teschovirus]	9.2
1359	13881823	gi 13881823 gb AAK46426.1  (AE007064) hypothetical protein [Mycobacterium tuberculosis CDC1551]	1.3
1368	1362185	gi 1362185 pir  S56686 histone H2B123 - wheat dbj BAA07158.1  (D37944) protein H2B123 [Triticum aestivum]	9.7

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1369	13812308	gi 13812308 ref NP_113426.1  hypothetical protein [Guillardia theta] emb CAC26995.1  (AJ010592) hypothetical protein [Guillardia theta]	4.7
1370	13541057	gi 13541057 ref NP_110745.1  Permease (major facilitator superfamily) [Thermoplasma volcanium] dbj BAB59369.1  (AP000991) unknown product [Thermoplasma volcanium]	7.6
1371	9964353	gi 9964353 ref NP_064821.1  AMV039 [Amsacta moorei entomopoxvirus] gb AAG02745.1 AF250284_39 (AF250284) AMV039 [Amsacta moorei entomopoxvirus]	5.3
1373	902377	gi 902377 gb AAA82981.1  (U18059) polyprotein [pestivirus type 1]	0.41
1374	8953748	gi 8953748 dbj BAA98067.1  (AP000368) gene_id:F6B6.1~pir C71410~similar to unknown protein [Arabidopsis thaliana]	0.27
1375	11291752	gi 11291752 pir T47971 seven in absentia-like protein - Arabidopsis thaliana emb CAB71109.1  (AL132959) seven in absentia-like protein [Arabidopsis thaliana]	10
1379	10177211	gi 10177211 dbj BAB10286.1  (AB026650) protein kinase [Arabidopsis thaliana]	5
1384	7332073	gi 7332073 gb AAF60760.1  (AC024810) Hypothetical protein Y54E10A.1 [Caenorhabditis elegans]	5.7
1388	11358814	gi 11358814 pir T46130 RNA polymerase III subunit-like protein - Arabidopsis thaliana emb CAB62010.1  (AL132967) RNA polymerase III subunit-like protein [Arabidopsis thaliana]	2.2
1389	4506569	gi 4506569 ref NP_002932.1  roundabout (axon guidance receptor, Drosophila) homolog 1 [Homo sapiens] gb AAC39575.1  (AF040990) roundabout 1 [Homo sapiens]	4E-17
1393	11761072	gi 11761072 dbj BAB19062.1  (AP002744) hypothetical protein [Oryza sativa]	1.9
1398	461649	gi 461649 sp Q05004 BB61_RABIT BRUSH BORDER 61.9 KD PROTEIN PRECURSOR pir B45665 adult-specific 61.9K brush border protein precursor - rabbit emb CAA78302.1  (Z12840) protein of unknown function [Oryctolagus cuniculus]	8E-52

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1402	478809	gi 478809 pir S29851 protein kinase 6 (EC 2.7.1.-) - soybean gb AAA34002.1  (M67449) protein kinase [Glycine max] prf 1908223A protein kinase [Glycine max]	9.3
1406	1517936	gi 1517936 gb AAB07000.1  (U52347) tachykinin-like receptor [Stomoxys calcitrans]	1.1
1407	9977929	gi 9977929 sp Q05013 LIPA_NEIMB CAPSULE POLYSACCHARIDE MODIFICATION PROTEIN LIPA pir D81240 capsule polysaccharide modification protein LipA NMB0082 [imported] - Neisseria meningitidis (group B strain MD58) gb AAF40546.1  (AE002367) capsule polysaccharide modification protein LipA [Neisseria meningitidis MC58]	9.3
1412	14773348	gi 14773348 ref XP_038450.1  20849 [Homo sapiens]	1E-48
1413	13537363	gi 13537363 dbj BAB40663.1  (AB051851) death receptor 3 [Homo sapiens]	3.9
1419	7477083	gi 7477083 pir A70577 hypothetical protein Rv2133c - Mycobacterium tuberculosis (strain H37RV) emb CAB08660.1  (Z95388) hypothetical protein Rv2133c [Mycobacterium tuberculosis] gb AAK46475.1  (AE007067) conserved hypothetical protein [Mycobacterium tuberculosis CDC1551]	1.9
1422	7499021	gi 7499021 pir T20846 hypothetical protein F13E9.9 - Caenorhabditis elegans emb CAA93411.1  (Z69383) F13E9.9 [Caenorhabditis elegans]	4.1
1424	14723696	gi 14723696 ref XP_035744.1  hypothetical protein XP_035744 [Homo sapiens]	1.5
1425	9961349	gi 9961349 ref NP_005500.2  Dmx-like 1 [Homo sapiens]	0.94
1426	478302	gi 478302 pir JN0835 carbonate dehydratase (EC 4.2.1.1) I - chimpanzee	1.6
1427	6649942	gi 6649942 gb AAF21641.1 AF032379_1 (AF032379) gonadotrophin releasing hormone receptor; GnRH-R [Trichosurus vulpecula]	9.6
1432	6636500	gi 6636500 gb AAF20201.1 AF205791_1 (AF205791) squalene synthase [Botryococcus braunii]	1.8
1434	7504070	gi 7504070 pir T22586 hypothetical protein F53F4.14 - Caenorhabditis elegans	0.05

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1437	102177	gi 102177 pir S13141 hypothetical protein (ribosomal RNA repeat region) - Giardia lamblia	1.2
1439	13357869	gi 13357869 ref NP_078143.1  unique hypothetical [Ureaplasma urealyticum] pir D82907 hypothetical protein UU309 [imported] - Ureaplasma urealyticum gb AAF30718.1 AE002128_6 (AE002128) unique hypothetical [Ureaplasma urealyticum]	5.4
1451	7468435	gi 7468435 pir B72015 metalloproteinase, insulinase family CP0903 [imported] - Chlamydomonas reinhardtii (strains CWL029 and AR39) gb AAD19093.1  (AE001675) Insulinase family/Protease III [Chlamydomonas reinhardtii CWL029] gb AAF38689.1  (AE002249) metalloprotease, insulinase family [Chlamydomonas reinhardtii AR39] dbj BAA99165.1  (AP002548) insulinase family/protease III [Chlamydomonas reinhardtii J138]	7.1
1452	9857712	gi 9857712 gb AAG00902.1 AF176776_1 (AF176776) xyloglucan endotransglycosylase LeXET2 [Lycopersicon esculentum]	1.9
1453	4493974	gi 4493974 emb CAB39033.1  (AL034559) hypothetical protein, PFC0930c [Plasmodium falciparum]	3.4
1454	4493900	gi 4493900 emb CAB39009.1  (AL034558) predicted using hexExon; MAL3P2.22 (PFC0265c), Hypothetical protein, len: 637 aa [Plasmodium falciparum]	6.1
1456	7503603	gi 7503603 pir T16375 hypothetical protein F46G11.1 - Caenorhabditis elegans gb AAA81397.1  (U40412) Hypothetical protein F46G11.1 [Caenorhabditis elegans]	2.1
1462	9437954	gi 9437954 gb AAF87502.1 AF250474_1 (AF250474) nucleoprotein [Influenza A virus (A/Duck/Hong Kong/P54/97(H11N9))]	6.7
1464	2129239	gi 2129239 pir G64488 reverse gyrase (intein-containing) - Methanococcus jannaschii gb AAB99531.1  (U67592) reverse gyrase, intein containing (rgy) [Methanococcus jannaschii]	9.2
1466	12232439	gi 12232439 ref NP_073602.1  hypothetical protein FLJ11937 [Homo sapiens] dbj BAB15124.1  (AK025392) unnamed protein product [Homo sapiens]	6.4

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1468	7243247	gi 7243247 dbj BAA92671.1  (AB037854) KIAA1433 protein [Homo sapiens]	2E-87
1472	12382242	gi 12382242 gb AAG53080.1 AF263824_1 (AF263824) 5'A2rel-related protein [Leishmania donovani]	8.7
1473	13812383	gi 13812383 ref NP_113501.1  seryl-tRNA synthetase (serin-tRNA ligase) [Guillardia theta] emb CAC27070.1  (AJ010592) seryl-tRNA synthetase (serin-tRNA ligase) [Guillardia theta]	6.5
1476	6014998	gi 6014998 sp O80164 DPA5_BPR69 DNA POLYMERASE PROCESSIVITY COMPONENT (DNA POLYMERASE ACCESSORY PROTEIN 45) (GP45) pdb 1B77 A Chain A, Building A Replisome Structure From Interacting Pieces: A Sliding Clamp Complexed With An Interaction Peptide From Dna Polymerase pdb 1B77 B Chain B, Building A Replisome Structure From Interacting Pieces: A Sliding Clamp Complexed With An Interaction Peptide From Dna Polymerase pdb 1B77 C Chain C, Building A Replisome Structure From Interacting Pieces: A Sliding Clamp Complexed With An Interaction Peptide From Dna Polymerase pdb 1B8H A Chain A, Sliding Clamp, Dna Polymerase pdb 1B8H B Chain B, Sliding Clamp, Dna Polymerase pdb 1B8H C Chain C, Sliding Clamp, Dna Polymerase gb AAC39310.1  (AF039565) DNA polymerase processivity component [Bacteriophage RB69]	6.9
1479	7706747	gi 7706747 ref NP_057263.1  transient receptor potential 4 [Homo sapiens] sp Q9UBN4 TRP4_HUMAN SHORT TRANSIENT RECEPTOR POTENTIAL CHANNEL 4 (TRPC4) (TRP-RELATED PROTEIN 4) (HTRP-4) (HTRP4) gb AAD51736.1 AF175406_1 (AF175406) transient receptor potential 4 [Homo sapiens] gb AAF22927.1 AF063822_1 (AF063822) trp-related protein 4 [Homo sapiens]	1.7
1480	9757550	gi 9757550 dbj BAB08163.1  (AB030831) SrtT [Streptococcus pyogenes]	0.47
1483	13516917	gi 13516917 dbj BAB40338.1  (AB044076) hybrid sensor [Myxococcus xanthus]	5

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1487	5790208	gi 5790208 dbj BAA83536.1  (AB031285) NADH dehydrogenase subunit 2 [Taenia saginata]	2.7
1489	14754352	gi 14754352 ref XP_032294.1  hypothetical protein FLJ10775 [Homo sapiens]	0.0008
1490	3552028	gi 3552028 gb AAC64946.1  (AF087130) siderophore regulation protein [Neurospora crassa]	7.2
1493	3913936	gi 3913936 sp Q43652 IP27_SOLTU PROTEINASE INHIBITOR TYPE II CM7 PRECURSOR pir S43105 proteinase inhibitor II - potato emb CAA55082.1  (X78275) proteinase inhibitor II [Solanum tuberosum]	9.9
1494	6573777	gi 6573777 gb AAF17697.1 AC009243_24 (AC009243) F28K19.17 [Arabidopsis thaliana]	2.2
1496	13622425	gi 13622425 gb AAK34148.1  (AE006569) maltodextrin transport system permease [Streptococcus pyogenes M1 GAS]	3.7
1498	9910266	gi 9910266 ref NP_064627.1  kinesin-like protein 2 [Homo sapiens] dbj BAB03309.1  (AB035898) kinesin-like protein 2 [Homo sapiens]	5E-19
1503	7294128	gi 7294128 gb AAF49482.1  (AE003527) CG4925 gene product [Drosophila melanogaster]	3.6
1506	14089610	gi 14089610 emb CAC13370.1  (AL445563) unknown; predicted coding region [Mycoplasma pulmonis]	1.5
1507	2565196	gi 2565196 gb AAB81938.1  (AF000381) non-functional folate binding protein [Homo sapiens]	0.0000004
1509	14753935	gi 14753935 ref XP_040892.1  hypothetical protein XP_040892 [Homo sapiens]	3.3
1510	12545425	gi 12545425 ref NP_074975.1  hypothetical protein [Astasia longa] sp P34776 YCY2_ASTLO HYPOTHETICAL 34.5 KDA PROTEIN IN RPS12-TRNP INTERGENIC REGION (ORF288) emb CAC24586.1  (AJ294725) hypothetical protein [Astasia longa]	7
1511	420215	gi 420215 pir B45878 hypothetical protein 2 - mouse	7.1
1512	7512874	gi 7512874 pir T08792 hypothetical protein DKFZp586E1422.1 - human (fragment) emb CAB43306.1  (AL050170) hypothetical protein [Homo sapiens]	5.5
1514	221758	gi 221758 dbj BAA01683.1  (D10879) UL37 [human herpesvirus 1]	0.18

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1517	11466232	gi 11466232 ref NP_062855.1  ORF9, contains 8 trans membrane regions, putative [Physarum polycephalum] dbj BAB08089.1  (AB027295) ORF9, contains 8 trans membrane regions, putative [Physarum polycephalum]	0.43
1518	182710	gi 182710 gb AAA52467.1  (M13918) fibronectin receptor alpha-subunit precursor [Homo sapiens]	1.3
1519	1142976	gi 1142976 gb AAC52392.1  (U28769) odorant receptor [Mus musculus] prf 2207403C odorant receptor [Mus musculus]	5.6
1520	6912446	gi 6912446 ref NP_036417.1  potassium voltage-gated channel, subfamily H (eag-related), member 4; ether-a-go-go K(+) channel family member [Homo sapiens] dbj BAA83592.1  (AB022698) BEC2 [Homo sapiens]	8.4
1522	14601483	gi 14601483 ref NP_148021.1  hypothetical protein [Aeropyrum pernix] pir G72637 hypothetical protein APE1558 - Aeropyrum pernix (strain K1) dbj BAA80557.1  (AP000061) 279aa long hypothetical protein [Aeropyrum pernix]	5.7
1526	12515306	gi 12515306 gb AAG56369.1 AE005365_3 (AE005365) orf, hypothetical protein [Escherichia coli O157:H7 EDL933] dbj BAB35435.1  (AP002557) hypothetical protein [Escherichia coli O157:H7]	7.4
1530	2765672	gi 2765672 emb CAB06819.1  (Z86115) ArbX [Lactobacillus delbrueckii]	7.9
1532	13472514	gi 13472514 ref NP_104081.1  unknown protein [Mesorhizobium loti] dbj BAB49867.1  (AP003000) unknown protein [Mesorhizobium loti]	7.9
1533	3309522	gi 3309522 gb AAC26098.1  (U18292) unknown [Borrelia burgdorferi]	2.1
1535	14520328	gi 14520328 ref NP_125803.1  activator 1, replication factor C, small subunit [Pyrococcus abyssi] pir C75198 activator 1, replication factor c, small chain PAB0068 - Pyrococcus abyssi (strain Orsay) emb CAB49034.1  (AJ248283) activator 1, replication factor C, small subunit [Pyrococcus abyssi]	0.41
1536	7229605	gi 7229605 gb AAF42902.1  (AF229961) NADH dehydrogenase subunit 1 [Taygetis andromede]	6.7



Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1537	6681261	gi 6681261 ref NP_031926.1  ect2 oncogene [Mus musculus] sp Q07139 ECT2_MOUSE ECT2 PROTEIN (ECT2 ONCOGENE) pir  S32372 transforming protein (ect2) - mouse gb AAA37536.1  (L11316) ect2 [Mus musculus] prf  1911407A oncogene ect2 [Mus musculus]	6E-10
1538	12381848	gi 12381848 emb CAC24715.1  (AJ297319) glucose-6-phosphate dehydrogenase-6-phosphogluconolactonase [Plasmodium berghei]	7
1540	7688657	gi 7688657 gb AAF67469.1 AF146760_1 (AF146760) septin 2-like cell division control protein [Homo sapiens]	9.7
1541	13021853	gi 13021853 gb AAK11564.1 AF318500_1 (AF318500) ent-kaurenoic acid hydroxylase [Arabidopsis thaliana]	0.091
1543	6900006	gi 6900006 emb CAB71294.1  (AJ251917) chorion protein s18 [Ceratitis capitata]	2.1
1545	1076445	gi 1076445 pir  S53004 mitosis-specific cyclin CYC2 - rape gb AAA51660.1  (L25406) cyclin [Brassica napus]	4.3
1548	7293274	gi 7293274 gb AAF48655.1  (AE003503) CG9644 gene product [Drosophila melanogaster]	0.46
1549	11358961	gi 11358961 pir  T51243 Sc11 protein [imported] - rice (fragment) gb AAC98091.1  (AF067401) Sc11 protein [Oryza sativa]	3.9
1550	8978966	gi 8978966 dbj BAA98801.1  (AP002547) phenylalanyl tRNA synthetase beta [Chlamydomonas reinhardtii J138]	4.1
1551	14010341	gi 14010341 gb AAK51958.1 AF362013_1 (AF362013) ATP synthase F0 subunit 6 [Halichondria sp. RFW-2001]	8.2
1553	8923094	gi 8923094 ref NP_060130.1  hypothetical protein FLJ20085 [Homo sapiens] ref XP_009383.2  hypothetical protein FLJ20085 [Homo sapiens] dbj BAA90939.1  (AK000092) unnamed protein product [Homo sapiens]	1.6
1557	14724725	gi 14724725 ref XP_037600.1  hypothetical protein XP_037600 [Homo sapiens]	4.2

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1561	14758684	gi 14758684 ref XP_007211.4  retinoblastoma 1 (including osteosarcoma) [Homo sapiens] ref XP_033825.1  retinoblastoma 1 (including osteosarcoma) [Homo sapiens] ref XP_033826.1  retinoblastoma 1 (including osteosarcoma) [Homo sapiens] ref XP_033827.1  retinoblastoma 1 (including osteosarcoma) [Homo sapiens]	0.91
1565	9635387	gi 9635387 ref NP_059285.1  ORF137 [Xestia c-nigrum granulovirus] gb AAF05251.1 AF162221_137 (AF162221) ORF137 [Xestia c-nigrum granulovirus]	5.9
1572	1730077	gi 1730077 sp P18160 KYK1_DICDI NON-RECEPTOR TYROSINE KINASE SPORE LYSIS A (TYROSINE-PROTEIN KINASE 1) pir T18276 non-receptor tyrosine kinase - slime mold (Dictyostelium discoideum) gb AAB41125.1  (U32174) non-receptor tyrosine kinase [Dictyostelium discoideum]	6
1574	9622133	gi 9622133 gb AAF89633.1 AF167719_1 (AF167719) transmembrane leptin receptor [Sus scrofa]	2.6
1578	139809	gi 139809 sp P27571 XIST_MOUSE X INACTIVE SPECIFIC TRANSCRIPT PROTEIN pir S15433 hypothetical protein - mouse emb CAA41978.1  (X59289) ORF [Mus musculus] prf 1711440A xist gene [Mus musculus]	7.7
1579	8567792	gi 8567792 gb AAF76364.1  (AC013428) I-box binding factor, putative [Arabidopsis thaliana]	5.7
1581	7638161	gi 7638161 gb AAF65408.1 AF238312_1 (AF238312) putative serine-threonine protein kinase MkcB [Dictyostelium discoideum]	9.2
1583	12644495	gi 12644495 sp Q9Z7G7 EX5B_CHLPN EXODEOXYRIBONUCLEASE V BETA CHAIN dbj BAA98945.1  (AP002547) exodeoxyribonuclease V, beta [Chlamydomonas reinhardtii J138]	7.2
1588	11350667	gi 11350667 pir D83160 nitrite extrusion protein 1 PA3877 [imported] - Pseudomonas aeruginosa (strain PAO1) emb CAA75538.1  (Y15252) nitrate extrusion protein [Pseudomonas aeruginosa] gb AAG07264.1 AE004805_2 (AE004805) nitrite extrusion protein 1 [Pseudomonas aeruginosa]	9.7

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1589	12644495	gi 12644495 sp Q9Z7G7 EX5B_CHLPN EXODEOXYRIBONUCLEASE V BETA CHAIN dbj BAA98945.1  (AP002547) exodeoxyribonuclease V, beta [Chlamydomonas reinhardtii J138]	5.2
1590	305479	gi 305479 gb AAC37807.1  (L11473) envelope glycoprotein [Human immunodeficiency virus type 1]	4.3
1591	9055244	gi 9055244 ref NP_061256.1  huntington yeast partner C [Mus musculus] gb AAD39464.1 AF135440_1 (AF135440) huntington yeast partner C [Mus musculus]	0.8
1593	12666210	gi 12666210 emb CAC28083.1  (AL138875) bA103J18.2 (novel protein) [Homo sapiens]	4
1596	12855510	gi 12855510 dbj BAB30362.1  (AK016654) putative [Mus musculus]	0.067
1597	133747	gi 133747 sp P09899 RS12_MICLU 30S RIBOSOMAL PROTEIN S12 pir A26956 ribosomal protein S12 - Micrococcus luteus gb AAA25317.1  (M17788) ribosomal protein S12 (gtg start codon) [Micrococcus luteus]	9.9
1600	7292455	gi 7292455 gb AAF47859.1  (AE003480) CG15005 gene product [Drosophila melanogaster]	0.43
1601	14748674	gi 14748674 ref XP_038133.1  Prader-Willi/Angelman syndrome-5 [Homo sapiens]	8.9
1602	11278020	gi 11278020 pir H82215 serine transporter VC1301 [imported] - Vibrio cholerae (group O1 strain N16961) gb AAF94460.1  (AE004210) serine transporter [Vibrio cholerae]	7.8
1607	9757538	gi 9757538 dbj BAB08122.1  (AB030852) maturase [Lilium rubellum]	6.6
1618	12249143	gi 12249143 ref NP_066194.2  NADH dehydrogenase subunit 5 [Schistosoma japonicum] gb AAG13134.2  (AF215860) NADH dehydrogenase subunit 5 [Schistosoma japonicum]	5.9
1620	7495508	gi 7495508 pir T18993 hypothetical protein C06B8.1 - Caenorhabditis elegans emb CAB03850.1  (Z81463) Similarity to C.elegans zinc finger proteins, contains similarity to Pfam domain: PF00104 (Ligand-binding domain of nuclear hormone receptor), Score=-13.7, E-value=0.051, N=1 [Caenorhabditis elegans]	2.9

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1621	7288570	gi 7288570 gb AAF45170.1 AF218963_1 (AF218963) period [ <i>Drosophila miranda</i> ]	4.3
1622	7707666	gi 7707666 dbj BAA95343.1  (AB027560) ATPase subunit 6 [ <i>Echinococcus vogeli</i> ]	4.1
1625	4761646	gi 4761646 gb AAD29428.1 AF139060_1 (AF139060) transmembrane cell adhesion receptor MUA-3 precursor [ <i>Caenorhabditis elegans</i> ] emb CAA83226.2  (Z30974) contains similarity to Pfam domain: PF00057 (Low-density lipoprotein receptor domain class A), Score=52.9, E-value=2.2e-12, N=3, second half (former T20G5.3) contains similarity to Pfam domain: PF00008 (EGF-like domain), Score=326.3, E-value=1> emb CAC42345.1  (Z30423) contains similarity to Pfam domain: PF00057 (Low-density lipoprotein receptor domain class A), Score=52.9, E-value=2.2e-12, N=3, second half (former T20G5.3) contains similarity to Pfam domain: PF00008 (EGF-like domain), Score=326.3, E-value=1>	1.7
1626	3582424	gi 3582424 dbj BAA33057.1  (AB017255) arginine kinase two-domain chain [ <i>Pseudocardium sachalinensis</i> ]	4.5
1628	9758077	gi 9758077 dbj BAB08521.1  (AB009052) sucrose cleavage protein-like [ <i>Arabidopsis thaliana</i> ]	6.2
1629	11610630	gi 11610630 gb AAG37436.1  (AY013711) cyclin E [ <i>Mustela vison</i> ]	10
1631	4838093	gi 4838093 gb AAD30838.1  (AF103278) immunoglobulin heavy chain variable region [ <i>Homo sapiens</i> ]	3.3
1635	12045265	gi 12045265 ref NP_073076.1  ATP synthase F0, subunit B (atpF) [ <i>Mycoplasma genitalium</i> ] sp P47643 ATPF_MYCGE ATP SYNTHASE B CHAIN PRECURSOR pir F64244 ATP synthase B chain (atpF) - <i>Mycoplasma genitalium</i> gb AAC71631.1  (U39722) ATP synthase F0, subunit B (atpF) [ <i>Mycoplasma genitalium</i> ]	8.5
1636	627406	gi 627406 pir A54849 collagen alpha 1(VII) chain precursor - human	0.66
1643	2246540	gi 2246540 gb AAB62665.1  (U93872) glycoprotein M [ <i>Human herpesvirus 8</i> ]	1.5
1644	2388576	gi 2388576 gb AAB71457.1  (AC000098) YUP8H12.17 [ <i>Arabidopsis thaliana</i> ]	4.7

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1645	7490184	gi 7490184 pir T37997 carboxypeptidase y - fission yeast (Schizosaccharomyces pombe) pir T43236 carboxypeptidase C (EC 3.4.16.5) precursor [validated] fission yeast (Schizosaccharomyces pombe) emb CAB10121.1  (Z97209) carboxypeptidase y [Schizosaccharomyces pombe] dbj BAA25568.1  (D86560) carboxypeptidase Y [Schizosaccharomyces pombe]	0.009
1646	7415597	gi 7415597 dbj BAA93452.1  (AB026494) acyltransferase homolog [Gentiana triflora]	6.1
1648	13541404	gi 13541404 ref NP_111092.1  DNA helicase (superfamily II) [Thermoplasma volcanium] dbj BAB59714.1  (AP000992) DNA helicase [Thermoplasma volcanium]	7.5
1649	6174902	gi 6174902 sp Q24767 PER_DROYA PERIOD CIRCADIAN PROTEIN pir S17286 period clock protein - fruit fly (Drosophila yakuba) emb CAA43439.1  (X61127) period [Drosophila yakuba]	0.2
1650	14318508	gi 14318508 ref NP_116641.1  Ies1p [Saccharomyces cerevisiae] sp P43579 YFB3_YEAST HYPOTHETICAL 78.8 KD PROTEIN IN HSP12-HXT10 INTERGENIC REGION pir S48316 probable membrane protein YFL013c - yeast (Saccharomyces cerevisiae) emb CAA86347.1  (Z46255) orf, len: 692, CAI: 0.14 [Saccharomyces cerevisiae] dbj BAA09225.1  (D50617) YFL013C [Saccharomyces cerevisiae]	8.8
1655	5052950	gi 5052950 gb AAD38784.1 AF149422_1 (AF149422) unknown [Homo sapiens]	0.000000007
1660	2988422	gi 2988422 gb AAC39776.1  (AF016903) agrin precursor [Homo sapiens]	3.4
1661	14756108	gi 14756108 ref XP_029883.1  EGF-like-domain, multiple 4 [Homo sapiens]	5
1664	10047313	gi 10047313 dbj BAB13444.1  (AB046838) KIAA1618 protein [Homo sapiens]	0.00001
1669	5902048	gi 5902048 ref NP_008974.1  HIV-1 rev binding protein 2; Rev interacting protein [Homo sapiens] pir G02629 Rev interacting protein Rip-1 - human gb AAB00557.1  (U55766) Rev interacting protein Rip-1 [Homo sapiens]	0.009

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1672	13122465	gi 13122465 gb AAK12639.1 AF317654_1 (AF317654) G protein-coupled receptor [Homo sapiens]	2.4
1673	7296752	gi 7296752 gb AAF52030.1  (AE003603) CG12147 gene product [Drosophila melanogaster]	2.1
1681	14767950	gi 14767950 ref XP_040494.1  nuclear RNA export factor 5 [Homo sapiens] emb CAC20428.1  (AJ277654) nuclear RNA export factor 5 [Homo sapiens]	6.9
1684	14740021	gi 14740021 ref XP_033953.1  32575 [Homo sapiens] ref XP_033954.1  32576 [Homo sapiens] ref XP_033955.1  32577 [Homo sapiens]	2.5
1685	13568988	gi 13568988 gb AAK30843.1 AF254571_1 (AF254571) growth/differentiation factor 7 [Mus musculus]	5.8
1694	106323	gi 106323 pir A34087 hypothetical protein (L1H 5' region) - human	0.005
1695	7444442	gi 7444442 pir T02087 gag/pol polyprotein - maize retrotransposon Hopscotch gb AAA57005.1  (U12626) copia-like retrotransposon Hopscotch polyprotein [Zea mays]	0.49
1696	13569915	gi 13569915 ref NP_112205.1  amnionless protein [Homo sapiens] gb AAK28532.1 AF328788_1 (AF328788) amnionless [Homo sapiens]	4.4
1697	13812078	gi 13812078 ref NP_113215.1  hypothetical protein [Guillardia theta] gb AAF24011.1 AF083031_8 (AF083031) hypothetical protein [Guillardia theta]	5.2
1699	462193	gi 462193 sp Q06003 GOLI DROME GOLIATH PROTEIN (G1 PROTEIN) pir JC1495 regulatory protein G1 - fruit fly (Drosophila melanogaster) gb AAA28582.1  (M97204) goliath protein [Drosophila melanogaster]	9.3
1702	13376638	gi 13376638 ref NP_079359.1  hypothetical protein FLJ21128 [Homo sapiens] dbj BAB15001.1  (AK024781) unnamed protein product [Homo sapiens]	5E-49
1705	7445803	gi 7445803 pir JC5348 cdd4 protein - Clostridium difficile emb CAA63569.1  (X92982) cdd4 [Clostridium difficile]	0.28
1706	10175016	gi 10175016 dbj BAB06115.1  (AP001515) BH2396~unknown [Bacillus halodurans]	9
1709	3953531	gi 3953531 dbj BAA34722.1  (AB015856) ATF6 [Homo sapiens]	9.1

Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1712	14329676	gi 14329676 emb CAC40651.1  (AJ242782) centaurin beta [Homo sapiens]	0.00003
1714	10432382	gi 10432382 emb CAC10340.1  (AL139421) dJ717I23.1 (novel protein similar to Xenopus laevis Sojo protein) [Homo sapiens]	0.00006
1717	8247357	gi 8247357 emb CAB92957.1  (AJ401026) hypothetical protein [Thermoanaerobacter thermohydrosulfuricus]	1.4
1719	7487043	gi 7487043 pir T08926 hypothetical protein T15N24.50 - Arabidopsis thaliana emb CAB77061.1  (AL078465) putative protein [Arabidopsis thaliana] emb CAB79515.1  (AL161565) putative protein [Arabidopsis thaliana]	0.39
1721	13507765	gi 13507765 ref NP_109714.1  similar to GTPases [Mycoplasma pneumoniae] sp P75088 Y024_MYCPN PROBABLE GTP-BINDING PROTEIN MG024 HOMOLOG (B01_ORF362) pir S73454 probable GTP binding protein yyaF - Mycoplasma pneumoniae (strain ATCC 29342) gb AAB95776.1  (AE000015) similar to GTPases [Mycoplasma pneumoniae]	6
1725	11071788	gi 11071788 emb CAC14632.1  (AL449144) hypothetical protein P214.26 [Leishmania major]	9
1727	14325595	gi 14325595 dbj BAB60498.1  (AP000996) hypothetical protein [Thermoplasma volcanium]	2.5





Table 3B Nearest Neighbor (BlastX vs. Non-Redundant Proteins)			
SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1754	14195008	gi 14195008 sp Q9JI55 PLE1_CRIGR PLECTIN 1 (PLTN) (PCN) (300-KDA INTERMEDIATE FILAMENT-ASSOCIATED PROTEIN) (IFAP300) gb AAF70372.1  (AF260753) plectin [Cricetulus griseus]	1.6
1756	74519	gi 74519 pir GNWVR4 structural polyprotein - rubella virus (strain Therien)	4.4
1760	6324076	gi 6324076 ref NP_014146.1  Ynl253wp [Saccharomyces cerevisiae] sp P53851 YNZ3_YEAST HYPOTHETICAL 47.2 KD PROTEIN IN SIP3-MRPL30 INTERGENIC REGION pir S63226 hypothetical protein YNL253w - yeast (Saccharomyces cerevisiae) emb CAA65491.1  (X96722) ORF N0860 [Saccharomyces cerevisiae] emb CAA96160.1  (Z71529) ORF YNL253w [Saccharomyces cerevisiae]	3.6
1762	1708082	gi 1708082 sp P50900 GUX2_CLOSR EXOGLUCANASE II PRECURSOR (EXOCHELLOBIOHYDROLASE II) (1,4-BETA-CELLOBIOHYDROLASE II) (AVICELASE II) emb CAA93280.1  (Z69359) avicelase II [Clostridium stercorarium]	1.9
1765	2224838	gi 2224838 emb CAA45388.1  (X63974) putative protein-tyrosine phosphatase [Rhodobacter capsulatus]	5.2
1768	6513773	gi 6513773 gb AAF14748.1 AF197756_1 (AF197756) maturase [Hedyosmum arborescens]	0.63
1775	14732870	gi 14732870 ref XP_029018.1  hypothetical protein FLJ10647 [Homo sapiens] ref XP_001969.2  hypothetical protein FLJ10647 [Homo sapiens]	1.3
1779	7521942	gi 7521942 pir T29096 gag polyprotein - murine endogenous retrovirus ERV-L emb CAA73250.1  (Y12713) Gag polyprotein [Mus musculus]	0.071
1785	7508408	gi 7508408 pir T25251 hypothetical protein T24H10.4 - Caenorhabditis elegans emb CAA90944.1  (Z54216) T24H10.4 [Caenorhabditis elegans]	2.9
1788	7460247	gi 7460247 pir B71612 hypothetical protein PFB0555c - malaria parasite (Plasmodium falciparum) gb AAC71900.1  (AE001402) hypothetical protein [Plasmodium falciparum]	6.4

SEQ ID NO	ACCESS N	DESCRIPTION	P VALUE
1789	4337102	gi 4337102 gb AAD18078.1 AAD18078 (AF129756) G6f [Homo sapiens]	2E-24
1792	1723494	gi 1723494 sp Q10413 YD88_SCHPO VERY HYPOTHETICAL 13.3 KD PROTEIN C1F3.08C IN CHROMOSOME I pir T38079 very hypothetical protein SPAC1F3.08c - fission yeast (Schizosaccharomyces pombe) emb CAA94626.1  (Z70690) very hypothetical protein [Schizosaccharomyces pombe]	7.2
1793	4589921	gi 4589921 dbj BAA76927.1  (AB017192) molybdopterin biosynthesis protein [Clostridium perfringens]	4.2
1799	7494302	gi 7494302 pir E71611 hypothetical protein PFB0580w - malaria parasite (Plasmodium falciparum) gb AAC71905.1  (AE001404) hypothetical protein [Plasmodium falciparum]	3.3
1800	14318508	gi 14318508 ref NP_116641.1  Ies1p [Saccharomyces cerevisiae] sp P43579 YFB3_YEAST HYPOTHETICAL 78.8 KD PROTEIN IN HSP12-HXT10 INTERGENIC REGION pir S48316 probable membrane protein YFL013c - yeast (Saccharomyces cerevisiae) emb CAA86347.1  (Z46255) orf, len: 692, CAI: 0.14 [Saccharomyces cerevisiae] dbj BAA09225.1  (D50617) YFL013C [Saccharomyces cerevisiae]	6.6
1802	14325595	gi 14325595 dbj BAB60498.1  (AP000996) hypothetical protein [Thermoplasma volcanium]	2
1809	7520399	gi 7520399 pir T11689 NADH dehydrogenase (ubiquinone) (EC 1.6.5.3) chain 5 - Graphium sarpedon mitochondrion (fragment) dbj BAA28187.1  (AB013147) NADH dehydrogenase subunit 5 [Graphium sarpedon]	4.9
1816	423981	gi 423981 pir A46193 88K E-26-specific domain protein Pok - fruit fly (Drosophila melanogaster) dbj BAA01080.1  (D10228) Ets domain protein [Drosophila melanogaster]	0.23
1818	7463036	gi 7463036 pir C70177 beta-glucosidase homolog - Lyme disease spirochete gb AAC66976.1  (AE001163) beta-glucosidase, putative [Borrelia burgdorferi]	8.4
1819	3851471	gi 3851471 gb AAC72292.1  (AF037295) sulfonylurea receptor-1 [Mus musculus]	3.4